TEMPORALITY AND LOGICAL STRUCTURE

AN INDIAN PERSPECTIVE

Edited By

Navjyoti Singh

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TEMPORALITY AND LOGICAL STRUCTURE

AN INDIAN PERSPECTIVE

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TEMPORALITY AND LOGICAL STRUCTURE

AN INDIAN PERSPECTIVE

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Navjyoti Singh

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PREFACE

This volume is an offspring of an efficacious marriage of two initiatives:

1. Formation of an active research network - *Prasthāna Mīmāṃsā Samāgama* - out of an emerging trend of explorations on the foundational and methodological aspect of theoretical sciences (Logic, Linguistics, Mathematics and Cognitive Science) in Indian tradition. It is a conscious attempt to rise above prevalent apathy in Indian academics towards foundational research in general and specially to rise above the widespread practice of mere expository or literal reassertion of the fragmented elements of Indian theoretical heritage. The root enthusiasm for foundational appraisal of Indian theoretical heritage, with a view to revitalize sustainable claims, stems from the possibility of transcending current foundational impasse in various theoretical fields as well as the desire to institute autonomous capability of formulating comprehensive and contemporary research problems and insights. This initiative is being coordinated by the National Institute of Science, Technology and Development Studies, New Delhi.

2. Ongoing institutional programme of the Indira Gandhi National Centre for the Arts, New Delhi, for cross-disciplinary and cross-civilizational acculturation on the basis of explorations woven around notions that are of perennial significance for human experience. First phase of the programme dealt with the notion of SPACE and the second ongoing phase deals with the notion of TIME or *KĀLA*. The second phase is in a preparatory state and is to culminate in an international symposium and exhibition in November 1990. In order to sensitize reflection on the phenomena of temporality attempts are being made under the programme to promote and precipitate academic gatherings on specific issues related to the overall thrust of the programme. The purpose being to trigger explorative capabilities inherent in Indian academics for focussing on the issues related to time.

The network constituted a condition and the ongoing programme an occasion to explore realms where foundational studies on Indian theoretical heritage and problematic of temporality overlaps. There is no settled discourse situation available readily in the region of overlap. Moreover such an endeavor has to reckon with pathetic stratification of discourse along traditional and modern grooves and further fragmentation of discourse along narrow captivities of disciplines or *sampradāya-s*. To overcome this situation new issues have to be opened and new discourse initiated, the ones which are not *ab initio* saddled with the conceptual cleavage one witnesses between traditional and modern discourse. The issues were to be such that they are at once transparent to both and thus relevant to both. Two themes

were singled out to investigate problematic of temporality (*kālasāpekṣatā* or *kālāropaṇa*) in the context of Indian tradition. Interestingly these themes do not deal directly with the notion of time (*kālatattva*) as such. The themes got formulated quite naturally along the lines of enqu'ry initiated in the recent trend of foundational appraisal of theoretical aspect of Indian heritage. Since thrust of enquiry on these themes is new, on each of the themes workshops were organized in order to precipitate and discover transparency of the issues. The two themes were:

(a) Temporality and Logical Structure in Indian Theoretical Heritage.

(b) *Srsti* - Its Philosophical Entailment.

This volume is a result of such an effort on the first theme. It all began with the essay I wrote last year, included as second essay in the volume, in which I proposed a comparative thesis by bracketing out civilizational dispositions relevant for the theme. Thus making a case that intrinsic relation of temporality and logical structure constitutes a distinctive feature of Indian theoretical tradition. That essay or the summary of the thesis in Hindi and Sanskrit translation were circulated among select scholars, both modern and traditional. Through extensive discussions several topics for close examination were delineated for presentation at the workshop. Deliberations at the workshop brought forth entire gamut of issue and topics relevant to the theme. The essays included in this volume only represent initial exploration on few of these topics in some details. Few other issues I have tried to capture briefly in the Introduction. Given the newness of the initiated discourse, the collection of essays presented here sum up to a whole which can best be described as tentative. Instead of attempting translation of all essays into one language for the benefit of readers, the essays included here are in the languages they were written in. As a result this volume has written material in three languages - English, Hindi and Sanskrit. This is by no means a happy situation but under the circumstances it is the best.

It is virtually unfeasible to give account of effort that went into production of this volume. The effort involved various initiatives right from the stage of conceptualization of the theme to organizing of a workshop and eventually preparation of the volume. The three packed days of deliberations at the workshop along with numerous discussions before and after the workshop and eventual penning down of the essays and then their compilation and printing - all of it involved around hundred odd people at various stages and in various capacities. Specially since the entire project got executed in a short span of less then a year, the effort can best be described as an academic entrepreneurship in which many individuals pooled their time, work and resources. The product, this volume, distributes the honour to only a few. Only if there is a voice of whatever has passed to silence that judicious distribution of honour can get ensured. However, few efforts can still be counted here as they distinctly stand out. Most outstanding involvement is of Anuradha Singh, right from the seminal germ of the idea to the end she has carefully nurtured the project and has in innumerable ways helped gather the impetus towards fruition

of the project. Sanskrit portion of the volume owes a lot to Sangeeta Khanna who has put in good amount of effort to see this project through.

One of the essay included in the volume was written in 1916 by late Krishna Chandra Bhattacharyya. It has been reprinted in the volume with the kind approval of late Gopinath Bhattacharyya and his family. It is to Mukunda Lath that the credit goes for pointing out, during the workshop, relevance of Krishna Chandra Bhattacharyya's thought for the theme. It's inclusion here adds a significant historical dimension to the theme addressed in the volume.

Most of the funds for organizational travel, workshop and publication came as grant in aid from Indira Gandhi Centre for the Arts, New Delhi. Kapila Vatsyayana has been the chief patron of the project. It is largely her writ which happily did not allow the project to drag and drift in time. Partial funds, infrastructural support and most vitally organizational manpower came from the National Institute of Science, Technology and Development Studies, New Delhi. It is over the years that NISTADS has gradually cultivated an institutional obligation to conduct and promote research in the foundational and methodological aspect of theoretical sciences in the Indian tradition. And it is precisely such an obligation that made possible formulation and undertaking of the project in the first place. Ashok Jain's outright support for the venture not only made possible my unhesitant involvement but also smooth hosting of the workshop at NISTADS in January 22, 23 and 24. The entire project would have crumbled without support from colleagues at NISTADS and *Prasthāna Mīmāṃsā* network.

NAVJYOTI SINGH
NISTADS
New Delhi

August, 1990.

INTRODUCTION : THEMATISING INDIAN PERSPECTIVAL APPROACH TO THE PROBLEMATIC OF TEMPORALITY AND LOGICAL STRUCTURE

NAVJYOTI SINGH

I : PRELIMINARIES

Intensely vivid and yet all encompassing is the play of time. It is this ceaseless experience of time which itself suggests, as though self evidentially, an overarching sense of timelessness. Though the world seems to be pervasively affected by change, yet its changing nature itself seems to be ever enduring, ever lasting and changeless. This is an old enigma of time and eternity, a perennial enigma.[1] None the less wise men, all around the world, have long been reasoning it out and accordingly moulding the affairs of men. And what we inherit today, apart from the diverging civilizational practices, is a rich legacy of rigorously articulated philosophical stances in which can be located numerous *departures (prasthāna-s)* for resolving this enigma. Rather, there is hardly a philosophical stance worth a name which can set aside this enigma or overlook it. The world, *jagat* ('the moving' from root √*gam*) or *temporalia* (realm affected by time), is after all persisting; temporality and atemporality are at once together. This immutable insight is immemorably inscribed in the Vedic phrase *jagatastasthuṣaśca* [Ṛg Saṃhitā 1.115.1].

Even if one were to proclaim 'inability to step in the same river twice'[2] one can hardly escape asking a question, like Heraclitus and several other Presocratic Greek thinkers did, "How All Things Are Steered Through All?"[3] And then one has to reckon with an astonishing answer that Heraclitus volunteers[4], namely, *logos* - a mysterious *trans-temporalia*. To be acquainted with the true judgement on 'how all things are steered through all' is to arrive at *logos*, which transcends the world affected by time. It is in here that the seed for implicating *logos* in the enigma of temporality - atemporality relation is sown. The theme which is being explored in this volume when expressed in utmost generality is precisely this - How is logic implicated in the enigma or rather the problematic of temporality - atemporality relation? After all the most significant construal of *logos*, at least in the currently reclaimed Greco-European heritage, has been logic itself. Do various *departures* (*prasthāna-s*) for the resolution of this enigma affect the enterprise of logic as such? If so, what are

the most significant points of *departure* that help us grasp the scope, nature and character of logic? Such queries form the background, a horizon, that has fuelled the quest embodied in this volume.

This volume has quite a restricted sweep compared to what possibly would constitute an adequate gathering of current reflections on the general theme outlined above. Never the less, the volume touches upon broad range of issues involved in the problematic in its own wholesome way. It is characterised by the intention to thematise perspectives issuing out of the Indian theoretical heritage. The essays included in the volume primarily draw their inspiration from the age old Indian tradition of theorising and philosophising. Although, this inspiration is deeply marked by the recurring comparative notices vis-a-vis Greco-European heritage which has come to dominate today the prevalent theoretical activity world over. Such a move is to be interpreted as an expression of Indian civilizational obligation to come to terms with the Greco-European heritage and not as a sectarian outburst.

That the bare accident of contributors being citizens of modern Indian State is not a prime moving force behind the above cited inclination will be obvious only when a legitimate ground can be carved out of the general theme, a ground which can thematically constitute the delimited realm that characterises this volume. Such a ground has to be construed purely in thematic terms and not either in geographical or in national terms. I shall try to thematically formulate this ground in the next section. Here what we need to note is the following. Behind the idea of this volume lies a deep seated though still not adequately articulated and defended insight, that - the dominant Greco-European thinking on the theme is a *different departure* (*prasthāna bheda*) than the Indian thinking on the matter in spite of the rich divergences within each of the two great traditions. A tall claim indeed but hopefully defensible and interestingly insightful. The process of acculturation, founded on the primordial and essential togetherness of man, shall flower only when differences in *departures* are sharply delineated otherwise acculturation remains surfacial and violates integrity of things concealed below that surface. The *departure* embodied in the Indian tradition of theorising and philosophising attempts resolutions of the enigma in a characteristic way and if so then its relation with the enterprise of logic itself will amount to a perspectival position. That is how we arrive at the topic of this volume - Temporality and Logical Structure : An Indian Perspective. In the next section I shall thematically work out the ground for this topic before venturing into the details of issues that get invoked in the wake of this volume.

II : FORMULATING THE GROUND

The relation of the problematic of temporality - atemporality with logical structure is impregnated in the fundamental and archaic distinction between *apeiros* (unlimited, infinite, indefinite, indeterminate, unbounded) and *peras* (limited, finite, definite, determinate, bounded) in the Greco-European heritage,[5] and a somewhat

analogous distinction between *aparimita* (immeasurable, unbounded) and *parimita* (measurable, bounded) in the Indian heritage. Intimately related to the *aparimita-parimita* distinction in the Indian tradition are the other archaic distinctions, namely, between *avyakta* (un-manifest) - *vyakta* (manifest), *parā* (in-eminent) - *aparā* (eminent) and *amūrta* (un-form-ed) - *mūrta* (form-ed) etc.[6] For our purpose here, the fundamental distinction pointed above has to be conceived cross-civilizationally overlooking differences in the technical sense which might have been given to each of the terms by numerous philosophical schools in the two traditions. There is yet another philosophical distinction, which is non-trivially related to this fundamental distinction and the problematic we have in hand and which is drawn in both the traditions. This is a distinction between one and many - *en* and *plethos* or *aika* and *bahutva*.

That these global distinctions are significantly related to the enigma and in particular to its relation with logic is what I am attempting to suggest here. These two distinctions along with the distinction of atemporality - temporality constitute a foundational complex from where *departures* embodied in the two traditions with reference to the general theme can be adequately formulated. I shall try to articulate the *departure* that characterises thrust of this volume using just these distinctions, namely - (1) *apeiros - peras*; (2) One and many, and; (3) atemporality - temporality. Though the content of the three distinction taken individually is different but it is the inter-twined reading of each onto other which makes an interesting canvas, an arena we are concerned here with.

In both the traditions multitude is accepted as a feature of the realm of *peras* or *parimita*. This is so since multitude can not be seen as a feature of the *apeiros* or *aparimita* either because of a positive claim of *oneness* of *apeiros* (or *aparimita*) or because of a negative claim of inaccessibility of *apeiros* as an object of knowledge (an Aristotelian claim). Thus multitude as accessible in knowledge in any case will not be the feature of *apeiros* or *aparimita* and can at least be identified exclusively with the realm of *peras* or *parimita*. Though the realm of *peras* or *parimita* might or might not be affected with time. On the other hand a much stronger claim of *oneness* of *apeiros* or *aparimita* is also to be found in the formative periods of the two traditions. *Temporalia* or *jagat* would then safely be the realm of *peras* or *parimita*, a realm where plurality as well as individuation is an essential and inescapable experience. In such a reckoning *apeiros* or *aparimita*, conceived as an active unity, can be construed as ever present undifferentiated atemporality, as a *trans-temporalia*, as a *unity*. We need not diverge into exact formulation of the relation of temporality and atemporality conceived on the image of or as adjunct to *apeiros-peras* or *aparimita-parimita* distinction since such a move would add complexity that is not essential for our purpose which can be adequately fulfilled at the level of generality we are indulging in. The point we want to make is : though Indian as well as Greco-European tradition accepts that *temporalia* or *jagat* are the realm of *peras* or *parimita* but such an agreement breaks down regarding attitude towards atemporality of *apeiros* or *aparimita*. In the Indian heritage it is still possible to claim that

throughout its history atemporality is sought to be founded in the conception of *aparimita* or *avyakta* or *parā* or *amūrta*. But in the Greco-European heritage, even as far back as Presocratics, the project (initiated by Anaximander and Melissus) to found atemporality in the conception of *apeiros* is abandoned. What is abandoned is the qualification of *apeiros* with *One* and hence with *trans-temporalia*. It is here that we can locate evidence for one particular construal of the *departure* between the two great traditions. We need to dwell a bit in the Presocratic Greek world to sharply articulate and understand this *departure*.

Anaximander for sure regarded *apeiron* as an unitary originative principle of *cosmos*, as a cause of coming to be and destruction in the realm of *peras*.[5] Aristotle in his discussions on Infinity in **Physics** even implied that all the Greek Physicists read *apeiros* in *elements*.[7] For instance, Anaximenes and Diogenes regarded underlying nature as *One* as well as *infinite*, much like Anaximander, but identified it with *pneuma* (Air).[8] Aristotle noted one significant difference between attitudes of Anaximander and Anaximenes, namely, that though both accepted *unity* as infinite (*apeiros*) but unlike the former's interpretation of *apeiron* the later did not regard it as also undefined or indefinite and thus thought it to be definite, as definite as air admitting rarefaction and condensation.[8] There is a deep cleavage implicit here between being and knowing that is implicitly recognised by Anaximenes and which marks the above construed difference from the stand point of Anaximander. For Anaximenes *apeiron* is accepted as Being, as a real principle of active potency and as a source of infinite fecundity, but not a a qualifying feature of knowing as well since that would amount to upholding indefinite or indeterminate as virtue in knowledge. Knowing can only be *peras* and never *apeiros* in its true nature - a thesis deeply responsible for abandoning of Anaximander's project of founding unitary atemporality in *apeiron*. For, *certitude* in knowing, a realm exclusively of determinable *peras*, must be related to *trans-temporalia*. It is thus that Aristotle articulates a happy and celebrated position, approvingly ascribing it to Pythagoreans, a position widely acclaimed in Greco-European heritage, that - "Evil belonged to the *apeiron* and good to the limited (*perasmeno*)".[9] Definitiveness and determinacy in thought can not belong to it if its nature is *apeiros*, thus philosophers and logicians ought to abandon *apeiros* in their quest for *certainty*. And if, as Parmenides maintained - "for the same thing is there both to be thought of and to be" [10] - then the being itself has to be *peiratos* (within limits).[11] Not only that thinking can not be *apeiros* but its object also can not be *apeiros*. Further more the being has to be *One*[12] if principles of thought or knowing are to be accepted. The principles of thought, which Parmenides took recourse to, are the familiar fundamental principles of logic in the Greco-European heritage, namely, principle of identity, principle of double negation, principle of contradiction, principle of excluded middle and based on them the attendant procedure of indirect proof. The logical mechanics of 'thought as *peras*' led to the discovery of a 'logical' *unity* which is not after all *apeiros* and moreover which is atemporal. Thus was the way paved for discovering *trans-temporalia* which is not *apeiros* but definite, determinate and limited.

But the experiential realm of *peras*, the *temporalia*, is after all itself marked by ceaseless plurality and multitude. How is *unitary atemporal peras* compatible with the *temporalia*? Parmenidean *One*, not withstanding its negative nature, must in some crucial way be related to the plurality since both are after all *peras* and thus legitimate objects in definitive, determinate thought. If only, by some means, Parmenidean *Unity* could be populated with plurality, logical programme of interpreting and explicating *logos* could be founded. It is Melissus' argument that - "if there were a plurality, things would have to be of just the same nature as the *One*"[13] - paved the way for the resolution. That is, if there were a plurality, its members would have to be just the sort of thing Parmenides claimed the *One* to be - changeless, ungenerated and indestructible. Such an object would be an 'abstract' object neither phenomenally given experiential multitude nor manifestation of transcendental *oneness*. These 'abstract' objects will not be affected by time.

Thus came the idea of *elements*. *Elements* are many and if they can be conceived such that they are compatible with Parmenidean method then negative *One* of Parmenides can be metamorphesized into an positive *One* constituted out of plural elements. The One which is voluminous and capable of being richly interpreted. I have in mind a success story of Euclid's **Elements**. Such a *unity* constituted out of plural 'abstract' elements is *logos*. Thus atemporality can be founded within *logos*, a matter purely of *peras*. Atemporality can thus be sought in the structure of true judgements regarding 'how all things are steered through all'. Such is the launching of the *departure* embodied in the Greco-European tradition of logic which is still being clarified and developed. In fact much of the history of ideas in the Greco-European heritage is explication and disambiguation of the idea of *logos*, a mysterious *trans-temporalia* whose objects are *peras* and is itself an bounded *unity*. Important point is that logician's conception of *logos* though being a matter of *peras* still ensouled *Unity*. Thus *unity*, in that case need not of necessity have to be discovered in *apeiros*. On the other hand a stronger claim can be made that *apeiros* can not be a *unity* since definitiveness of thought would irretrievably suffer owing to *apeiros* in that case being a prime principle of composure. It can not even be an object of true thought. And even further it can be claimed that *apeiros* is an ill founded affection with time in which any determinate claim of multitude or unity is rendered untenable. Thus Anaximander's project could easily be abandoned and the resolution of the enigma can be attempted within the realm of *peras*. A *unitary Trans - Temporalia* is to be discovered within the realm of *peras*. This as a stance is unique to the Greco-European heritage.

Thus in the mosaic of Greco-European traditions atemporality is singularly sought to be founded within the realm of *peras* or *parimita* where as in the Indian tradition atemporality is sought to be founded in the realm of *aparimita, avyakta, parā* or *amūrta*.

This is a formulation of a fundamental difference in *departures* (*prasthāna bheda*). This notice is significant since logical structures are a matter of *peras* or

parimita in both the traditions. In that case, then, - 'how exactly is temporality related to logical structure in the Indian theoretical heritage?' - becomes an issue of extraordinary significance and needs to be examined closely. Specially so since atemporality of logical structure is a settled theme of investigation, exploration, elaboration and philosophical claim in the dominant discourse prevalent in the Greco-European heritage.

The ground has been thus formulated. If in the Indian heritage atemporality is associated with *aparimita* and logic has been a matter of *parimita* then, what is the expectedly 'natural' relation of temporality and logical structure. That such an exploration is bound to yield insights into the nature of logic which are not accessible in the Greco-European heritage is a central reason for undertaking preparation of the volume.

Through the above given analysis we have bracketed out Greco-European theoretical heritage from the general theme of the situation of logic in the problematic of temporality-atemporality or an enigma. What we are left with is the ground which is wide open - to explore relation of temporality and logical structure from an Indian perspective. Now we turn towards thematising issues that prima facie suggest themselves from the standpoints of Indian theoretical heritage and which can characterise further the compilation of essays in the volume.

III : THEMATISING THE GROUND

From the perspectives of Indian theoretical heritage a quest to found *trans-temporalia* within the realm of *peras* alone seems to be an estranged quest *ab initio*, since atemporality can only be associated with *aparimita*. But this exactly has been the quest and the drive that has fuelled mainstream development of Greco-European logic including much of the advances in modern mathematics and logic, an achievement which can hardly be brushed aside or overlooked. Recent influx of Greco-European heritage into Indian Civilisation in the last two centuries has thus, quite understandably, brought to surface a basal discomfort or a puzzle. On the one hand stands proven efficacy, how so ever restrictive or liberative, of founding atemporality within the realm of *parimita* and on the other hand stands quite a reasonable and practically justified philosophical stance proclaiming untenability of such a *departure* since it is the realm of *parimita* to which inalienably belongs *temporalia* and to the realm of *aparimita* belongs atemporality. The first 'modern Indian' philosopher Krishna Chandra Bhattacharyya, who deeply acquainted himself with European philosophical and logical thought, found himself at exactly this cross-road. Quite understandably he issued an appeal way back in resurgent 1916:

> "...One should go beyond ordinary logic (belonging to Greco-European tradition) which simply turns its back on the outlying *indefinite* and looks to the definite as the sole content of thought... Such recognition of the *indefinite* implies not only an extension of logical doctrine: it involves also a material

modification of the logic of the *definite*."[14]

He interpreted current European logic as 'logic of *definite*' and attempted to deconstruct it using his doctrine of *indefinite* with the hope of thus enriching the idea of universal logic. His attempt to impinge on the foundations of Greco-European logic grew out of his conviction that "modification of the logical doctrine would be necessitated by the admission of *indefinite* in logic".[15] That is, by construing *indefinite* as a positive content of logic and not merely as a transcendental implicate of definite logic. He founded the need for such a construal on the ideal of Universal logic which for him should not only present the form common to all that is claimed as knowledge but also present the form of all doubt and dispute.[16] If this be so then logic as such can not stand on any so called necessary or self evidentially determinate principles since that would commit logic to the particular metaphysical or epistemological faith or doctrine or presupposition. If a doubt is cast on any claim of self evidential determinate principle, as has been done amply in the history of ideas, then logic as such has no right to enter into the dispute and to take sides. For logic to be presuppositionless and universal it has to stand on a principle whose criticism in principle will be unintelligible and such a "principle can be no other than the bare dualism of the *definite* and *indefinite*".[17] But the question remains - How does *parimita* & *aparimita* dualism disclose itself in the content of logic? What does '&' express other than the despair of knowledge, other than the perennial possibility of doubt?

Kailash Chandra Bhattacharyya suggests disambiguation of several definite, determinate concepts and relations in Greco-European tradition of logic and demonstrates how they embody *indefinite* content. Most notable are his comments on the concept of 'quantity' - conception of 'all' and 'some' - and his analysis of negative conditional proposition where concepts of disjunction and negation are shown to have *indefinite* content. Whether it is demonstrating extra logical character of 'quantity' or demonstrating that disjunctive is embodiment of partial ignorance, Kailash Chandra Bhattacharyya's indulgence amounts to showing *indefinite* as an interpretational content rather then operational content of logic. He takes as a starting point of critique Greco-European logical doctrines and does not directly keep in his perview Indian logical doctrines. Thus the conceptual apparatus of logic which he reflects on is narrow. And if this narrow apparatus is taken as settled and all that is there to be reflected on, then quite understandably, investigation in it would yields merely to interpretational rather then operational prescription. He is able to reduce Greco-European logic to an aspectual indulgence (which celebrates overlooking indefinite aspect) but is not able to offer operational reform programme for construing universal logic.

How can 'form of all doubt and dispute' be construed as a part of the operational content of universal logic? Such a form would non-trivially involve temporality as its constituent since possibility of doubt in future will be its content as well. Such a form or syntax can not be construed atemporally? It is here that the investigational

thrust of rest of the essays compiled in the volume lies. Indian tradition of theorising and philosophising gives ready anchorage for investigation, an anchorage which Kailash Chandra Bhattacharyya missed by omission or commission.

In my essay[18] is noted an interesting fact that theories in the Indian tradition are invariably presented as netted structure of two distinct types of rules, namely, universal rules (*utsarga* or *sāmānya*) and their exceptional rules (*apavāda* or *viṣaśa*). But for the mutually obstructive nature (*bādhya bādhaka saṃbandha*) of the two types of rules, which has deep logic significance, this notice would have been harmless and not worthy of philosophical attention. Even early Europeans who got acquainted with elements of Indian theoretical heritage were struck by the pervasive presence of this feature. In the European eyes theories were supposed to be logically structured collection of universal truth claims about certain subject domain and unhesitant inclusion of exceptions within the theory was a strange behaviour and quite understandably an object of ridicule, aversion and despise. Thus in a characteristic wane Colebrook, a leading Indologist of the last century, remarked somewhat disdainfully "this simplicity (commendable universal truth claims in Pāṇini's Aṣṭādhyāyī) is beclouded by endless pursuit of exceptions".[19] Leaving aside European bewilderment the notice is worth pursuing philosophically in the context of an inquiry into Universal logic which hopes to present 'form of all doubt and dispute' along with the 'form common to all that is claimed as knowledge'. Why and how is it that logical structure embodied in various sciences (*prayojana śāstra-s*) in the Indian tradition invariably have *utsarga* as well as *apavāda* (universal truth claims as well as their exceptions)? Why were theories not built with only universal truths (*utsarga śāstra-s*) or *niyama-s*? What is the logical content and philosophical implication of the mutually obstructive nature of the two types of rules? Is the seed of obstruction (*bādha bīja*) or as I have called it-the *logical wedge*- indispensable from the structure of theory or it is merely of stylistic significance and basically dispensable?

Utsarga - apavāda structure of theory brings to focus issue of the nature of truth claim in theory. The truth of an universal claim is nullified by the truth of exception to that claim. That is, *utsarga* is overruled (*bādhita*) by *apavāda*. This mechanics of truth is crucially foreign to the systemic mechanics of truth in modern logic. Does it mean that predispositions towards the idea of truth is different in the traditions constituting the two different mechanics of truth. To resolve this issue I construed as subject matter of my enquiry a philosophical reading of the truth (veridical) content of logical structure as distinct from its linguistic content. Philosophical reading basically constituted in investigating relation of the truth content with temporality. First, I showed that in the Greco-Eurcpean tradition veridical content of logical structure is sought to be regarded as *atemporal* and the modern mechanics of truth in logic issues from such a disposition. Then on analyzing *utsarga - apavāda* structure following disposition as a pan-Indian attitude is formulated:

"There is no *a priori* ground to rule out an exception to an universal rule though one may not be able to supply one".[20]

In other words, there is no *a priori* ground to claim that exceptions will not occur and the truth content of an universal rule is non-impeachable over time. The implication of this attitude on the idea of truth in logical structure is significant. The truth content is trans-temporally indeterminate or indefinite though inclusion within the logical structure of obstruction or logical *wedge* (*bādha bīja*) makes truth content determinate within the system. But this determination is no longer *atemporal*. Temporality thus resides in the womb of logical structure and is signified by the *wedge* (*form of bādha bīja*). It displays itself in the veridical content of the logical structure. Mechanics of truth because of the presence of *wedge* becomes different then the mechanics of truth being sought after in the *wedge-less* Greco-European tradition of logic. I even suggest that hordes of limitation theorems issuing out of decision problem in modern logic are merely expressions of the reified structure or syntax of the *wedge*.

It is the irreducible *wedge* which in a sense beholds the 'form of all doubt and dispute' along with the 'form of all that is claimed as knowledge'. It gives in operational content to the image of Universal Logic erected by Kailash Chandra Bhattacharyya and more important then that it attract attention to the practice of such a Universal logic in the Indian tradition of theorisation. The way I have recast the thesis is as follows:

Veridical content of Universal logic *can not* be atemporal. Thus much of the Greco-European quest in logic is at best an aspectual indulgence resulting out of an indefensible disposition that the veridical content of logical structure is to be founded atemporally. Occurrence of the *wedge* (*bādha bīja*) in the logical structure is a sign of temporality. Insistence on eradication of the *wedge* would amount to characterising logic atemporally as if it is a shape of a complete eternal moment. But the moment is never complete or closed, for, it spills over to the next out of temporal necessity. Thus only if the moment includes the *wedge* that it beholds responsible determinate content otherwise content in it would be abstract or aspectual. The foundational unity of content that a moment be holds and content that transforms in a duration is captivated in the idea of *wedge* (*bādha bīja*). *Wedge* shows up as a particular form of disjunction between universal and exceptional rules when viewed synchronically and as a form of historical development of a theory when viewed diachronically.[21]

It will be apt to state here that the construal of temporality through an irreducible disjunctive cleavage between universal and exceptional rules in most of the *prayojana śāstra-s* is itself only a reified construal of temporality in the womb of logical structure. Through it the nature of truth claim in logic at structure could be focused on. In fact, most of the essays in the volume explore nature, character and syntax of the *wedge* as well as other signs of temporality in the logical structure in

several different ways. The issue of temporality is wider than what could be highlighted by focusing on the nature and structure of the *wedge*. Practice of Universal logic in the Indian tradition brings forth several insights on the exact relation of temporality and logical structure. Before we go over to them and invoke more issues it is appropriate to take notice of four prima facie objections to the claims made so far. These objections have been raised in the three different essays included in the volume and at the workshop.

1. Renowned Mīmāṃsaka Paṭṭābhirām Shastri in his essay - "Whether Indian Civilisation is temporal or atemporal?"[22] - picks up issue with the civilisational dimension of the argument presented above. His thesis is that the Mīmāṃsā arguments for *apauruṣeyatva* (creator-less-ness) and *anāditva* (beginning-less-ness) of Veda amounts of accepting atemporality of Veda and also civilisation founded on it. *Vidhi-niṣedha* (injunctions-prohibitions) which issue out of Veda are also thus atemporal. These injunctions and prohibitions are operative atemporally and the civilisation which results from their practice is thus also atemporal unlike the civilisation which entertains a basic conviction that injunctions-prohibitions are created or constructed temporally either in the beginning or historically. In this sense Indian civilisation is based on atemporally founded precepts where as European civilisation is based on temporally founded precepts. Practical reason is founded atemporally in Indian and temporally in European civilisation. Thus attempt to read temporality in logical structure enshrined in the Indian tradition is prima facie suspect.

Though the object (*viṣaya*) of injunctions is *anuṣṭheya* (to be established) but injunctive sentences (*vidhi vākhya-s*) have some component entities (*padārtha- s*) which are not *vidheya* (in need to be established). Time is such an *anupādheya* (which is not to be established) entity. Time and four other such entities get invoked when situation occurs for the action of a particular atemporal injunction. Though there are many universal and exceptional injunctions but their activation occurs in accordance with their distinct *sāmarthya* (appropriateness). Universal injunctions activate in situations left empty by situations where exceptional injunctions activate and their respective situations of activation are definite and distinct. Thus even their relation can not be construed in terms of temporality since time is external to the prime content of injunctions. The mutually obstructive nature (*bādhya bādhaka bhāva*) of injunctions must thus also be atemporal though the activation situation (*anuṣṭheyatva*) and appropriateness (*sāmarthya*) distinguishes them non-ambiguously in practice. Neither *anuṣṭheyatva* nor *sāmarthya* can affect atemporality of injunction-prohibitions or universal - exception relation among them. Same must be the case with *śāstra-s* (theories) like grammar where situation or time when activation of a rule occurs is independent of a theoretical or logical structure. Theoretical structure atemporally ensures applicability in explicitly distinguishable situations available in plentiful practices laid over time. Thus even theories (*prayojana śāstra-s*) in a civilisation where practical reason is founded atemporally can only incidently indicate organisation of utterly external time where as it is

theories in temporally founded civilisation which would attempt to construct time as if time is *vidheya* (or to be created). If is theory - time relation is to be accepted then universal-exception relation has nothing to do with time besides one should expect that theories enshrined in Europe would be fundamentally temporal in nature where as theories enshrined in Indian civilisation would be fundamentally atemporal in nature. This position appears to be exactly converse of what we have claimed earlier.

The objections raised by Paṭṭābhirām Shastri on the time tested authority of *sanātana paraṃparā* (unaffected-by-time- tradition) are serious and raise the depth of issues addressed in the volume. Theoretical structures deal with knowledge claims and the context in which above mentioned issue has to be raised is regarding knowledge of injunctions and prohibitions. Can there be knowledge of *vidhi-s* without there being a single instance of their activation? Clearly there can not be such a knowledge. In that case one of the essential pre-condition of the knowledge of *vidhi-s* becomes necessary occurrence of activation of *vidhi-s*. Since activation has temporal feature, temporality becomes essential condition for the knowledge of *vidhi-s* and since universal-exception relation of *vidhi-s* is a feature of knowledge claim it can be concluded that universal-exceptional relation is tied with temporality. It is thus possible to contest Paṭṭābhirām Shastri-s claims on the basis of certain strands within Mīmāṃsā tradition. It is Sangeeta Khanna[23] who in her essay takes further the issue in the context of *smṛti-s* or *dharma śāstra-s*. Explicit acknowledgement of temporal susceptibility of rule structure in *dharma śāstra* leads her to examine relation between *śruti* (original occurrence of injunctions) and *smṛti* (recollective occurrence of injunctions) afresh. Necessary implicating of man (*puruṣa*) for activation of injunctions brings in temporal elements within the structure of *smṛti-s* which alone can be properly called *prayojana śāstra* (a theoretical structure) in the context of *dharma*. These temporal elements in structure do not really disturb theoretical claim of the *apauruṣeyatva* (independent-ness-from-man) of *vidhi-s*. Any *anuṣṭhāna* if necessarily involves temporality then universal-exceptional rule structure can be interpreted as resulting from *anuṣṭheyatva* and thus being appropriately interpretable in terms of temporality. Though *śruti* (Veda) then will have to be understood as collected complex (*saṃhitā*) of *apauruṣeya vidhi-s* and not strictly as the *karma kāṇḍa* corpus of Ṛg, Yajur and Sāma Saṃhitā-s. Thus even Vedic *anuṣṭhana* will involve *pauruṣeyatva* and thus temporal element. Even Chhatrapati Singh in his essay on the temporal roots of normative system[24] examines issues related with Paṭṭābhirām Shastri-s arguments. He argues for a necessary temporal nature of justice dispensation as evident in time limitation laws, the theory of evidence and temporal closure of obligatory normative system. The nature of obligation is seen to be temporal and elements of temporality are sought to be located in the systemic structure of obligation. Both Sangeeta and Chhatrapati bring out different shades of temporality in the structure of *dharma śāstra* and support the contention that universal-exceptional rule structure is an expression of temporality. The issues that get involved here are deep and multifaceted and not

resolved definitively in the volume but the leads are present in these essays for their resolution.

2. Tibetan scholar Samadogna Rinpoche raises another serious objection from the Buddhist perspective in his short and crisp essay on the nature of *niyama* (rule) and *vyāpti* (invariable concomitance). *Prayojana Śāstra-s* (theories) invariably suggest in their structure various relations between several entities which are posited in their subject domain. He radically distinguishes between two different kinds of theoretical relations - (a) *Vyāpti* - relation of invariable concomitance between entities, and (b) *Niyama* - relation of non-invariable concomitance between entities. His claim is that *vyapti* is universal in nature and does not admit of exceptions, where as it is in the nature of *niyama* that exceptions get admitted. *Niyama* is probabilistic in its nature and its truth claims can be indefinite but not that of *vyāpti* which is immutable, infallible and definite. Since any *śāstra* embodies theoretical entities admitting both *vyāpti* as well as *niyama* relations the general claim that there is no *a priori* ground to rule out an exception to universal is untenable. For, *vyāpti-s* just would not admit of any exception, it will be there or it will not be there but will not be indefinite in content admitting exceptions. This is a neat and strong claim which deepens the claim further but various suggestions emerged while discussing it in the workshop and later.

It is important to note difference in the meta-theoretical significance of the two concepts of *vyāpti* and *niyama*. *Vyāpti* is always a relation between two singular terms where as *niyama* invariably posits relation between two or more groupings of terms. *Prayojana śāstra-s* (theories) by their nature deal with the theoretically posited relation between various groupings of terms and not with the relation between two singular terms. For, *vyāpti* relation between two singular terms will be fundamentally independent of any theory and in that sense is atheoretical. What is being pointed out is that terms in *niyama* are invariably accompanied by quantifiers where as terms in *vyāpti* are devoid of quantifiers. Only relations of quantified terms are theoretic in nature and not relation of terms devoid of quantification. This statement needs to be clearly understood. Defining feature of the *prayojana śāstra-s* is their respective subject domain. Once subject domain is fixed it is disciplined into order by a theory, that is to achieve theory-hood is to give *anuśāsana*. This ordering (structuring) involves grouping of plural terms or entities that populate subject domain into groupings in theoretically significant way and this way *niyamana* is achieved. By grouping is meant indication of the domain of occurrence of the term with the term, that is, terms are variable-like with accompanying quantifier which delimit situations where the term of a rule applies and makes the rule applicable. Universal and exceptional nature of rule refers to domain of application and mutual obstructive nature of universal and exceptional rules stem out o mutually obstructive overlap of the domain of application of rules. This aspect of *utsarga* and *apavāda niyama- s* (rules) is highlighted in Rajendra Prasad Sharma's essay[25] on indispensability of obstructive nature (*bādhya bādhaka bhāva*) of rules in the theory of grammar where he interprets rules of grammar in terms of quantifiers. Even

Chhatrapati Singh brings home this very point in the context of the theory of justice when he stresses that lawyer's prime concern is to interpret law in actual situations.[26] That, lawyer's and jurists are concerned with determining if quantifier in a rule covers actual particular situation in hand. This concern with particular is a concern embodied in quantifier which bestows theoretical status to universal or exceptional rule. We shall come back to this aspect of the nature of *niyama* later but here it needs to be noted that *vyāpti* relation is a relation between atomic terms devoid of quantifiers referring to grouping of particulars. A study of theory structure would mean a study of structural aspect of *niyama* and not structural aspect of *vyāpti*.

It may be pointed out that from the reason given above one may understand meta-theoretic nature of *niyama* but one does not really deny meta-theoretic nature of *vyāpti* which might be theoretically significant in some other way, For instance, any theory claims to be embodying capability of inferencing. And it is to locate meta-theoretically this feature of a theory that the concept of *vyāpti* could be significant. True, that *vyāpti* is a central concept in the theory of inference but it is merely an analytic concept within the theory of inference but not a concept related to the theory-hood of the theory of inference. Though *vyāpti* is a analytic concept in the structure of inference but it is not a feature of the theoretical structure of the theory of inference. Two essays by Naiyāyika-s, namely, Sibajiban Bhattacharyya's[27] and Uma Bandyopadhyay's,[28] bring out temporal elements in the theory of inference by bringing out and demonstrating significance of properties in the theoretic structure which account of inference-hood. And P.K. Mukhopad . ay[29] elaborates on the temporal account of the logic of theory change taking actual instance of changes in the theory of inference in time.

The point worth pondering is the claim of meta-theoretic vacuousness of the concept of *vyāpti*. Even from the stand point of Buddhist theoretic heritage, given any instance of inference, though *vyāpti* between *hetu* and *sādhya* might be there but *hetutva* is established only when *siddhi* (accomplishment) of *sādhya* is achieved. This notice is universally acceptable to *all* traditions of philosophising in Indian heritage. Paradigmatic example of *Dharma sastra* can amply illustrate this position. Though *nirvāṇa* is a *sādhya* but certainty regarding *hetu* needed to definitely accomplish (*siddhi* of) *nirvāṇa* will be achieved only on achievement of *nirvāṇa*. On achievement of *nirvāṇa* only it can be claimed that *hetutva* is retrospectively established. This process brings in temporality in the theoretic structure of inference since *siddhi* of *sādhya* involves temporality and certainty of *hetutva* crucially depends on *siddhi*.

In *prayojana śāstra* since *prayojana* (purpose or *lakṣya*) is a fundamental requirement whose *siddhi* is an aim (*sādhya*) and the theoretical apparatus (*lakṣaṇa*) is a *hetu* for that *sādhya*, certainty regarding *hetutva* of proposed *lakṣaṇa* depends on *siddhi* or actual achievement of the *lakṣya*. Thus certainty is temporally founded. Here *vyāpti* of *hetu* and *sādhya* by itself is meta-theoretically immaterial and what is meta-theoretically significant is the *hetutva*. So questions regarding

inference capability of theoretical structure is the question of *hetutva* of the proposed *hetu* and not that of meta-theoretically vacuous concept of *vyāpti*. Though theory of inference gives us structure of inference grounded on the central notion of *vyāpti* but it is the situating of that structure in the actual particular instance of inference which forms a concern of a theory. That is why in the question regarding inference capability of theory it is *hetutva* which is a meta-theoretic concept or a concept of importance for understanding theory-hood rather then the vacuous concept of *vyāpti*. It is the question of *hetutva* which involves temporality in its concern about particularity or particularities where *niyama* (*lakṣaṇa*) finds application. In fact the problem of quantification is the problem of *hetutva* which issues from the concern for particularities of application.

Theory-hood is to be understood in this context of responsibility towards actual particularity or individuation where *niyama* finds application. The argument from the *prayojanakatva* of theory-hood and its relation with temporality is made by Anuradha Singh[30] in the context of *Āyurveda* (science of longevity and health or medicine) and by M D Srinivas[31] in the context of *Jyotiḥ śāstra* (Science of celestial bodies or astronomy). Both of them point out unique ways in which theoretic elements in these disciplines disclose temporality.

3. An interesting point was raised by Dayakrishna in the workshop that perhaps disciplines in which man, the knowing subject is himself an object (i.e., human sciences) have such a nature that universal knowledge claims necessarily nave exceptions but disciplines akin to natural sciences are such that knowing subject is not an object of knowledge claim and in them universal knowledge claims do not admit to exceptions. He noted that since claim regarding pervasion of *utsarga - apavāda* rule structure has being made by focusing on disciplines such as *Vyākaraṇa* (linguistics), *Dharma śāstra* (theory of jurisprudence) and *Āyurveda* (medicine) etc. only, the claim is narrow. For, disciplines like mathematics (*Gaṇita*) and astronomy (*Siddhānta Jyotiṣa*) even in the Indian tradition are unlikely to have admitted *utsarga - apavāda* rule structure. What would it mean for mathematical theory to pronounce a universal rule of computation and also admit its exception in the theory. Perhaps the dichotomy being projected in the theme of the workshop stems from the fact that in the Indian scientific tradition linguistics is a paradigm and in the Greco- European Scientific tradition mathematics is a paradigm.

In my presentation at the workshop on "Temporality and Mathematical Structure", which could not be included in the volume, I examined merit of this argument. it is fairly true that theoretical mathematics (*Siddhānta Gaṇita*) in the Indian tradition does not embody explicit *utsarga - apavāda* structure, it is equally true that Indian tradition is insistently algorithmic in nature.[32] It is in the algorithmic nature that the *wedge* (*bādha bīja*) shows up. Fundamentality of mathematical 'operation' over 'being' of mathematical objects in Indian mathematics commits it to *sequentialisation* of mathematical steps in a way that algorithmic structure follows. *Niyama-s* or rules having injunctive forms (*vidhi-s*) are the elements of this structure. The idea of

'mathematical proof' (*pramāṇya*) is also that of establishment (*siddhi*) of *sādhya* as is the case with other *prayojana śāstra-s*. Thus the three features is *kriyā pradhānatā* (fundamentality operation); *kramikatā* (necessary sequentiality), and; *prāmāṇya* (establishment of result) - lead to breakdown (*bhaṅga*) of eternal truth content of rules of mathematics and brings in features of temporality within the logical structure of mathematics. Temporal interpretation of *wedge* (*bādha bīja*) in *utsarga - apavāda* structure was based on the indefinite truth content of universal rules and it is exactly this foundational attitude which shows up in Indian mathematics. In fact Anuradha Singh in her essay on Āyurveda (medicine) makes a similar point that universals are not *svabhāva nitya* (eternal by their nature).[33] M D Srinivas in his essay on *kālavidhāna śāstra* (astronomy) demonstrates that the idea of *prāmāṇya* (proof) in its discloses feature of temporality.[34] Truth in Indian mathematics is not fundamentally different from the idea of truth in other *prayojana śāstra-s*. In fact, as Uma Bandyopadhyay asserts,[35] except for some Bauddha-s and Śaṃkara Advaitin-s even Indian philosophers of different schools also do not make distinction between different types of truths and even Bauddha-s on Advaitin-s idea of non-obstructed (*abādhita*) object is radically different from the non-obstructed 'abstract' objects accepted in the Greco-European tradition. Indian Theoreticians do not deny time, or abstract from the temporality of objects, in order to secure absolute character of truth. Same argument holds even for the traditions of mathematics. Indian mathematics does not admit of any non-obstructable 'abstract' objects which can conceal temporality as has been attempted in the Greco- European tradition of founding mathematics. The mathematical objects in the Indian tradition one by their nature obstructable or *bādhita* thus theoretical structure erected on them will admit *bādha bīja* (*wedge*) and thus can be interpreted as disclosing temporality. Contention based on-man the subject, being on object of knowledge - thus becomes irrelevant. Though it does point towards the need of a careful and detailed study of differences in different *prayojana śāstra-s* to see different modalities of disclosure of temporality in their logical structure.

4. P K Mukhopadhyay[36] in his essay raises another issue which brings home the complexity of the topic of the volume. He finds it quite acceptable interpretation of *bādha bīja* as signature of temporality only in a synchronic sense but contends its interpretation in a diachronic sense. He in fact goes into the details of history of idea in theory of inference in Nyāya tradition and shows quite convincingly that diachronically an attempt to arrive at appropriate characterisation (*anugata lakṣaṇa*) of inference-hood discloses a some what dia-logical process between *antarbhāva* (reduction) and *anugama* (unification) which synthetically and adequately captures the logic of theory change. He links up this process with the modern concern on the logic of theory change and the ideal of temporally open theory. His attempt is much deeper since he aims to present general realist idea of theory change or transformation and that too from an Indian realist's point of view. Diachronic interpretation of *utsarga - apavāda* in terms of Kātyāyana *Vārtika-s* modifying **Aṣṭādhyāyī** amounts to a simplistic interpretation according to him. On the other hand it seems to be the case that even this historical phenomena can be properly

analyzed in terms of technical apparatus he develops for the realist logic of theory change.

This might be true and it only points out that temporality in a historical sense might disclose itself in the structure he proposes. Though at some level *utsarga - apavāda* phenomena also has to be acknowledge, for instance, meta-theoretic acceptance of recalcitrant fact as auxiliary principle in the structure of *open* theory.

Of the four points of contention the first deal with the contentious philosophical issues and point towards determinate resolution of the debate which the second two only help in opening out programme for future exploration. In fact there are several other leads which emerged through the discussions of the workshop for closer exploration in the future.

We can classify the debates into Three broad heads:

(a) Debates related to *śāstra - prayoga (vyavahāra) saṃbandha*:

What is the relation between *lakṣaṇa* or *śāstra* and practices (*vyavahāra*)? The answer which one finds in the Indian theoretical tradition is that the relation is *anādi* (beginning-less). It is in practices (*vyavahāra*) that *sastra* is found instantiated and it is through *śāstra* that practices (*vyavahāra*) is cultured. This is a most interesting circular relation and to capture it the idea of *anāditva* is used. Does'nt it mean that the *sastra* or *lakṣaṇa* itself is *nitya* (eternal). How is this relation, which clearly is in the need for explication and interpretation stands in comparison with the idea of self-sufficient and self-transparent validation criteria of a theory. And then if *śāstra* or *lakṣaṇa* are *anitya* (non eternal) then why does not practices become indeterminate?

(b) Debates related to the nature of *niyama*:

Niyamana (structuring) on the one hand seems to *close* options of practices and on the other hand *open* new options of practices. What is the nature of this Zeus faced *openness.* and *closure* of the *niyama.* Besides there seems to be a clear limitation of what can be structured or what is amicable to *niyamana* and what is not. For instance, novelty breaks set *niyama* though it can also be discovered within the realm of *niyama.* What is the nature of this limitation? Why, say, gender was not put to *niyamana* in the Sanskrit grammar?

What is the distinction between *niyama* and proposition? Or what is the difference between, say, *vidhi vākya* and synthetic *a priori* proposition.

What is the relation of *niyama.* with *prayojana* (purpose)? In other words-what is the relation of *niyama-s* among themselves vis-a-vis *prayojana.*

(c) Debates related to *ekavākyatā*: Theory is an organism of *niyama-s.* which is characterised by *ekavākyatā* (literally, one-sentence-ness), that is, entire theory is accessible in a moment as if it is a *one* sentence. What is the nature of this *One-ness*? What really holds the logical structure together? How is consistency founded if not by self-sustaining criteria of validity? Besides the nature of connections between elements of *ekavākyatā* are not clearly deductive. In that case what are they?

How does and in which all forms *bādha bīja* finds a place within *ekavākyatā*? Is the origin of *bādha bīja* theoretic or practical? Are there various kinds of *apavāda*, say, the ones which result from the criteria of simplicity (*lāghava*) and ones which are real in nature? Can theories embodying *utsarga* - *apavāda* structure be transformed into isomorphic structure only having *utsarga-s*. That is, are *apavāda* indispensable? Can not the mechanism be found to transform *apavāda-s*. into independent *utsarga-s*? And then there is a question of immediate value - What are the insights from Indian logical structure which can be formalised if this logical structure is itself non-formalisable?

These questions and debates point towards one thing - What even has been collected in this volume is at best a beginning of an exploration and at worst an expression of a tentative idea.

NOTES

1. Ananda, Commaraswami, *Time and Eternity*, Bangalore: Select Books, 1989.
2. An often quoted canonical attitude ascribed to Heraclitus in the Greco-European tradition. This attitude is evident in fragment no. 214 and 215 compiled in *The Presocratic Philosophers*, edited and translated by G.S. Kirk, J.E. Raven and M. Schofield Cambridge: Cambridge University Press, second edition, 1983. Hence forth fragments of Presocratic thinkers will be referred to simply as, say in this case, fr. 214, 215.
3. Phrases like 'steers all' or '... enfolds all things and steers all' were quite prevalent among Presocratics and occupied a place of honour in their philosophical phraseology and terminology. For example, *ibid*, Anaximander's fr. 108, Heraclitus' fr. 227, Parmenides' fr. 306 and Diogenes of Apollonia's fr. 603 use the phrase 'steers all'.
4. *Ibid*, see fr. 194, 195 and 196 ascribed to Heraclitus.
5. Anaximander originally fixed the distinction philosophically by elevating the term *apeiron* to signify originative principle of the *cosmos*. *Ibid*, *cf.* fr. 101.
6. Originally all these distinctions can be found in *Ṛg. Saṃhitā* and other Vedic literature much before the advent of technically elaborate theorising and philosophising in the Indian tradition.
7. *Ibid*, fr. 102 in Kirk et al. Quoted from Aristotle's *Physics* G4.203 a 16.
8. *Ibid*, fr. 140, 599 and 602.
9. *Ibid*, fr. 440.

10. *Ibid*, fr. 292 and 299.

11. *Ibid*, fr. 298.

12. *Ibid*, fr. 297 and Parmenides poem fr. 288 and Plato's dialogue *Parmenides*.

13. *Ibid*, fr. 537.

14. The passage is quoted from his essay "Place of *Indefinite* in Logic" included in this volume from earlier published version in Krishna Chandra Bhattacharyya, *Studies in Philosophy*, Ed. by Gopinath Bhattacharyya. Delhi: Motilal Banarsidass, second revised edition, 1983. This essay has been reprinted in this volume as a first essay, pp. 1-13. Quote is from p. 4.

15. *Ibid*, p. 1.

16. *Ibid*, p. 2.

17. *Ibid*, p. 3.

18. "Temporality and the Veridical Content of Logical Structure" included as second essay in this volume, pp. 14-26.

19. Henry Thomas Colebrook in J F, Staal (ed.) *A Reader on the Sanskrita Grammarians.* Holland : Reidel, 1972, p. 40.

20. This volume, p. 22.

21. *Ibid*, p. 24.

22. This volume, pp. 27-31.

23. This volume, pp. 113-122.

24. This volume, pp. 96-112.

25. This volume, pp. 71-95.

26. This volume, pp. 96, 104-105.

27. This volume, pp. 32-44.

28. This volume, pp. 45-55.

29. This volume, pp. 142-179.

30. This volume, pp. 123-132.

31. This volume, pp. 133-141.

32. Foundational studies on the algorithmic nature of Indian mathematics have brought home its several distinct features vis- a-vis foundations of mathematics in the Greco-European tradition. See, Navjyoti Singh, "A Comparative Study of the Foundation of Mathematics in Greece, India, China and the Modern West", *PPST Bulletin*, No. 8, 1985, pp. 53-73. Chhatrapati Singh, "The Philosophical Foundations of a General Theory of Numbers", Paper presented at NISTADS Conference, 1984. M D Srinivas, "Methodology of Indian mathematics and its Contemporary Relevance", *PPST Bulletin*, No. 16, 1988.

33. This volume, p. 126, 129, 130.

34. This volume, p. 138.

35. This volume, p. 50.

36. This volume, pp. 142-179.

I

PLACE OF THE INDEFINITE IN LOGIC

KRISHNA CHANDRA BHATTACHARYYA

1. The purpose of this essay is to examine what modifications of logical doctrine would be necessitated by the admission of the indefinite in logic, side by side with definite position and definite negation. In logic, which originarily deals with the definite content of thought only, the indefinite is considered in at least three ways. It may be regarded explicitly as extralogical, as only something subjective or psychological which it is the purpose of the science to outgrow or supersede. Sometimes it is treated as provisionally definite; both the uncertain and certain relation of the knowing faculty to the object is taken to yield definite forms of positive logic, the indefinite in fact being admitted as only an epistemological element of the definite content of logic. In dialectic, it is taken as definite function of truth itself, as the *function* of negation which is neither a mere epistemological element nor a static truth by itself but still a constructive factor of definite truth only. Our inquiry is whether and how logic should find place for the absolute indefinite as distinct from the indefinite that is only constitutive of the definite and our prima facie justification for the inquiry is that there is such a thing as a metaphysic of absolute doubt - at least a philosophy of the irrational - and that logic as the prolegomena to all science and metaphysics should not commit itself to the particular metaphysical faith in the finality of a definite system of truth. The indefinite has found in fact a place in metaphysics in many forms. To mention only a few at random, there is the 'negative' matter of Plato, the *māyā* of the Vedantist-s, and the *śunyaṃ* or 'void' of the Buddhist-s. There is the notion of objective chance in Aristotle and of the inexplicable change of direction of the atoms of Lucretius. There is the conception of the indeterminate will, specially in the extreme form of unmotived or irrational activity, as presented by a Duns Scotus, a Schopenhauer, or a Bergson and there is finally the Unknowable whether of Kant or of Spencer. These notions are at present homeless in logic; there is no category to express them and disputes arise in connection with them in metaphysic which properly should have arisen in logic itself.

2. It is necessary to begin by clearly defining the scope of logic as conceived here. Whatever may have been the origin of the science, in its present state it can hardly be treated except mainly as a positive science distinct alike from psychology and the objective sciences and concerned with the most abstract principles, not only of all science, but of all philosophy. It deals with the object or content of all knowledge claimed as such and in this sense is an objective science, though the

object here means all thinkables, subjective, objective, and absolute. It considers only the form of the object, not the matter and so its primary problem should be whether there is any form which is not matter, which is not determinate, which is undeniably presupposed in all determinate concrete thought, accepted or disputed, which in fact - paradoxical as it may sound - is not affected even by the uncertainty of this problem. It is not the primary purpose of logic to develop this form, if it can be discovered, into the ground-principles or categories of the several concrete departments of thought. That would be committing oneself to a particular system of metaphysic; and logic, as prior to all metaphysic, can only indicate these by way of bringing out all that it does not deal with. For purposes of logic, in other words, it should be assumed that all intuitions that are claimed as such as all sciences and philosophies *may* be true; it must be universal in the sense not only of presenting the form common to all that is claimed as knowledge but also as presenting the form of all doubt and dispute.

3. This view of logic is forced upon as by the circumstance that it has to take account not only of the positive sciences but also of metaphysics. Metaphysics in re-opening the fundamental questions assumed to be settled in the sciences presents many alternative solutions of which it is not for logic to accept or reject any on the ground of commonsense, for the whole purpose of the science is to replace the rough and ready rule of the thumb. A similar problem gave rise to epistemology as a prolegomena to all branches of knowledge claimed as such but there is this difference from logic as we conceive it here that it itself represents a body of knowledge that is determinate or uncriticized, resting as it does either on the authority of introspection or on that of traditional logic for the solution of the critical problem without a prior criticism of these authorities themselves. This prior criticism, if undertaken, would yield us logic proper, with its absolutely abstract or fundamental character. If epistemology has not been able so far to maintain its role of a prolegomena and has come to be a mere chapter in some metaphysical system, dialectical or other, it is because it has not stripped itself, to start with, of all determinate presuppositions, because in fact it has not been fundamental enough. That the transcendental logic of Kant, for example, led to the positive dialectic logic of Hegel only shows that the antithesis between the transcendental and positive is not absolute in the sphere of the determinate. In both, the abstractions with which logic is taken to be conversant are taken to be constructive functions: they are viewed as at once analytic and synthetic. In Kant, the analytic moment indeed remains transcendental in view of a consciousness of a limit to reason, of an indefinite thing-in-itself; but this consciousness of the indefinite is not taken seriously to affect the epistemology itself. The definite unity of the self and its synthetic specification into a definite system of categories are obviously suggested by the presuppositions of a particular system of metaphysic, viz., the developmental, and the indefinite itself is taken to be *real* without criticism. Logic in our present conception, however, in endeavoring to supply the abstract form of epistemological knowledge itself, would stand on a height of abstraction where the distinction of the transcendental and the positive is obliterated. The synthetic developmental prin-

ciple has no necessary place in it any more than the principle of determinate identity, for it has no right to build on a determinate metaphysical presupposition: the principle of logic should be absolutely abstract.

4. Can we have such a science at all? If we demand a criticism of epistemology, should we not demand a criticism of the criticism and so on ad infinitum? Epistemology starts with a principle that it believes to be self-evident or necessary. If however, a real doubt is cast on the principle, if the basis of intuition or axiom in general is challenged as it has been challenged, logic as such has no right to enter into the dispute and to take sides; and so on in criticizing epistemology, it cannot stand on any so-called necessary or self-evident principle. To start with a determinate contingent principle would be equally absurd and so it can only stand on an indeterminate principle which can indifferently be called necessary or contingent. This principle can be no other than the bare dualism of the definite and the indefinite, in which neither has even the specific implication of reality or unreality. A further criticism of this dualism is unintelligible, for the negation of the principle is nothing other than the principle itself.

5. To explicate this principle. The most abstract and comprehensive dualism that can be conceived is that between the definite and the indefinite. It is possible to show in the case of any other dualism that can be proposed that there is a *third* something beyond it. Even in the case of being and non-being, one can cite an indefinite that is neither, call it the unknowable or freedom or whatever else. It is not necessary to present the dualism of definite and indefinite in the form of a judgement as a law of thought, for the law-form is only a form among forms: the judgement is not the necessary logical unit in such logic as is conceived here. But if a law-form is demanded for this principle - the word 'principle' is sufficiently general in philosophical usage, it may be presented in the paradoxical form - the indefinite is not and is indefinite at once. It is similar to the dialectical principle of the identity of being and not-being but there is the difference that in the latter, more stress is laid in the last resort on the identity than on the difference between the opposed terms: the synthesis of position and negation is uncritically taken to be only positive, and the final synthesis viz., the absolute is taken as a positive system of truth. In the principle we have presented, equal stress is laid on the identity and difference of the opposed terms; what it amounts to is that the line between the definite and the indefinite is itself indefinite that the minimum of difference from the indefinite that constitutes the abstract definite is a vanishing quantity.

6. The difference from the dialectical principle can be stated in another way. The ground principle of logic has been formulated in at least three ways - in the form of system or reason, in the form of relation or judgement, and in the form of an irrelative term, intuition or experience. The identity of being and non-being points to the conception of system as the ruling conception of dialectic. In conceptualist or intuitionist logic, the fundamental principle is best conceived as a relation between positive terms i.e., as an ordinary judgement like 'this being is not another being'.

In empirical logic, an experience is the test of its own truth and so the basal principle may be formulated as 'this determinate being (Mill) or this determinate becoming (Bain) which is not non-being'. In the principle proposed for the logic of the indefinite, no preference is implied for any of these three forms. It is best put as a mere dualism or opposition, definite and indefinite, the 'and' expressing apparently the very form of illogicality or the despair of knowledge. It really however expresses the inadequacy of the three forms aforesaid. As against the form of reason, the dialectical principle, it indicates an alternative - unreason - beyond reason: position and negation are not necessarily the moments of the positive absolute. As against the form of judgement, the conceptualist principle as we may call it, it suggests that beyond determinate affirmation and negation, there is the indeterminate (though it may be practically useful) form of doubt or ignorance. As against the form of the irrelative determinate term - we call it the experimental principle provisionally - it points out that the positive object of experience is always a determination carved out of the indeterminate. It suggests, in fact, that the indefinite has to be recognized as standing outside the term, the judgement, and the inference, that one should go beyond ordinary logic which simply turns its back on the outlying indefinite and looks to the definite as the sole content of thought.

7. Such recognition of the indefinite implies not only an extension of logical doctrine: it involves also a material modification of the logic of the definite. With regard to the term, for example, the determinate object of experience, our principle shows that the boundaries that demarcate it from the surrounding indefinite are themselves indefinite or indefinable, that the particularly of 'this determinate' is something unique which can neither be taken as a separate definite category nor as a necessary determination of the universal and accordingly the 'this' may be indifferently taken as either being (Mill) or as transition (Bain).[1] With regard to the judgement-form, it is pointed out that definite relation, affirmative and negative, is itself indefinite, that if relation is given fact, the 'givenness' is an indeterminate which can be regarded either as an abrupt positive or as a negation of the indefinite and that the negation of the indefinite is indifferently affirmative or negative i.e., the distinction between affirmative and negative is indefinable or in other words, contradiction is just as conceivable as otherwise.[2] With regard to the form of reasoning, our principle would indicate that system or necessary relation is as much a given fact as a negation of negation and that this negation of negation may be taken as equivalent to position or negation indifferently.[3]

8. With the Hegelians then, we admit the identity of being and non-being or necessity but hold that this necessity is itself a contingent fact. So the contradiction between 'being' and 'non-being' is to us as much an object of thought as their non-contradiction; a contradictory judgement is neither inadmissible nor is merely a moment in the necessity of dialectical identity. So, too, the determinate *this* has not simply being and negation in its constitution but also the indefinite or the Unknowable.

9. The indeterminate being or non-being with which Hegal starts is not the same as our indefinite. In the term, 'this determinate', 'this' is something unique to which neither the terms, 'being' or 'non-being' can be applied, though 'thisness' or determinate being may be taken as an identity of being and non-being. As constitutive of 'thisness' then, the indeterminate being or non-being of Hegal is still definite in our sense: 'this' as transcending 'thisness' is unanalysable, indefinable, or indefinite. 'This determinate' may thus be analyzed into the three principles - the indefinite, being, and non-being, we hold that the indefinite, being, and non-being can all be taken as the starting point indifferently, these being all implied in 'this determinate'.

10. With reference to the judgement, our contention is that it is equally true to say that the terms are or are not constituted by their relation, that in it a given matter of fact, a 'this' which is neither definite being nor definite non-being is determined into a relation of terms, that the relation is at once identity and difference in reference to this indefinite, and that apart from this indefinite, it is just as true to say that there is as that there is not necessary mutual implication between identity and difference, that the affirmative relation is and that it is not prior to the negative.[4] As to reasoning, the necessity implied in the 'therefore' is taken by Hegal as the self-creating dialectic of truth itself, as the position created by the negation of negation. In empirical logic, it is taken to be the position contingently reached through other positions, as a particular reached through particulars; and in conceptualist logic, it is the mere explication of a position by negation, as a rendering of a universal premise analytically definite by an individualizing minor premise. We, however, hold that the new something reached in the conclusion is really a definition of the indefinite matter to which reasoning has reference and that the necessity is but a contingent fact in this reference.

11. Hegelian logic does not admit the indefinite but holds instead that dialectic necessity is creative. Its strength lies however only in *seeing* that a real category of given experience *was* necessary, not really in yielding any new category or creating it. Hence where it has sought to create, critics have only seen a dismal failure or found that it was a sort of prophesying after the event. This inability to create is, in fact, the implicit admission of the indefinite. What the critics do not bring out however is that this retrospective prophecy, this *seeing* that a stage which has emerged *was* necessary is a true seeing: they have yet to explain why the dialectic exposition which is not at least explicitly analytic *fits* the category deduced, how an apparent continuity between an old and a new category is at all established by the mere process of negation of negation. It is a form of the old question how what is anticipated by inference comes to be verified by experience and to call it a mere accident or to understand a pre-established harmony is simply to give up the problem of explanation.

12. At the same time it is true that such anticipations of inference are not sometimes verified, that only probable truths are reached actually by inference and

hence the justification for taking the inferential form as only an ideal and for distinguishing it from the material process of inference itself. This amounts on the one hand to the admission of the analytic necessity within this ideal form as itself *given* and as *somehow* applicable to the indefinite matter of experience and on the other to the view that the synthetic material process is a definite necessity inexplicably emerging out of the indefinite. In conceptualist logic, the definite analytic necessity within the syllogism is understood as the given or intuited ideal and error or uncertainty is taken as only the accident of application. In empirical logic where the ideal is nothing and the material process is all, it only amount to saying that *somehow* as a matter of fact we pass from particulars to other particulars which are sometimes verified.

13. As against conceptualist logic, Kant holds that the forms of positive logic are not merely given but are synthetic *a priori* necessities at bottom, that their applicability to experience is not accidental but necessary, that however although matter in general is necessarily demanded by form, *what* specifically the matter will be is unknowable. The Kantian view thus brings out the latent implication of the indefinite in the intuited character and applicability of the forms admitted in conceptualist logic. As against empirical logic, Spencer points out that unless logic is to lapse into psychology, the ideal form has to be taken as necessarily presupposed in the material process, that inference is inference only as implying the consciousness of justification or necessary ground, that this necessary ground or axiom is not only the consolidation of contingent experiences but has the implication of the inconceivability of the opposite and that experience taken as the *given* definite in empirical logic is really the indefinite breaking forth into the relation of difference.

14. Both Kant and Spencer thus bring out the transcendent character of the indefinite but both uncritically take this indefinite to be the unknowable *reality*. Against this however we hold that the indefinite may as well be called the unknowable negation, that in fact it is a third category side by side with position and negation, that it is as much immanent in the definite as transcendent, and that therefore it is not simply the transcendental implicate of definite logic but the content of positive logic itself.

15. Our logic thus finds categories for widely different metaphysical notions of reality, for the notion of the knowable world as in all different senses in which it has been taken. Logic as here conceived renders intelligible the denial of the unique positive reality of the given, not only in the sense in which Hegal understands it who admits the reality and takes it to be constructed by negation, but also in the absolute sense. The assertion of the ultimate falsity of the world - falsity not only to absolute intuition but to logical thought itself - is thus conceivable. In positive logic itself, not only in position to be conceived as negation of negation as it is conceived in dialectic: it is to be admitted also that negation of negation may be indefinite negation. At the same time we recognize that the indefinite may be regarded as real and as embodied in the definite axioms and experiences that we start with as positively *given*. We

admit the truth both of conceptualist and empirical logic or - what is the same thing - we can conceive the metaphysical view that determinate noumena or phenomena or both side by side constitute the knowable world. There is nothing finally to prevent us from conceiving that this immanent being is to the transcendent real indefinite a real mode, effect, or objectification, that the definite is a real specification of the indefinite. We thus frankly make a positive use, logical and metaphysical, of the indefinite, unlike Kant and Spencer who while deprecating such positive use of the indefinite view it implicitly as the *real.* Conflicting epistemological notions are also thus logically conceivable: both necessity and fact can be understood alike as an emanation and evolute of the indefinite, and each may be regarded as the other - i.e., necessity may be taken as an inexplicable fact, as the positive stress of the indefinite real and given fact may be viewed as implying negation of an indefinite negation.

16. The general implications of our principle - the indefinite and definite are and are not one - have been brought out as demarcating the logic of the indefinite from other types of logic. The bearing of it on some details taken at random may be discussed by way of further elucidation.

17. *Conception of 'all' and 'some'.* Logic as dealing with the most abstract content of thought, definite and indefinite, has no direct interest in developing the determinate categories of the several departments of knowledge. If it refers to quantity then, even in the vague form of 'all' and 'some', it is only by way of bringing out what it does not deal with. The primary question is whether it starts with the determinate or the indeterminate and our answer is that the starting point is 'this determinate', where 'this' is the unique indefinite. The difference of the definite and indefinite being itself indefinable, the difference of the determinates from one another is also indeterminate in the last resort. From the side of the definite as fixed by language, we deny this indeterminate difference which we are conscious of, by using the word 'all': the connotation is primarily meant as definite, in view however of the indeterminate differences of the particulars constituting the denotation. The word 'some' on the contrary primarily means this indeterminate difference in view of the definite connotation. The secondary accompaniment in each case is affected by the primary intention. We have said that the definite and the indefinite are not only different but identical and so the indefinite denotation of 'all A' - indefinite as fixed by connotation and not by enumeration - is itself a definite function or form in logic: and the definite connotation of 'some A' - viz., the connotation of A - is itself rendered indefinite, 'some A' being equivalent to 'all A *x*' where *x* is an indefinite determination of A. In so far then as we say that the definite is *not* the indefinite, subalternation may be regarded as an opposition and not so in so far as we admit their identity: the truth of 'all' both denies and admits the truth of 'some'.[5] This only means that quantity - difference which is the object or content of thought and not merely psychological is itself indefinite and that these contradictory views about 'all' and 'some' may be both true. Logic should consider this fact of alternation only: it should not be its business to develop the quantitative doctrine itself into some sort

of logical algebra or geometry. Nor is it its business to settle the psychological or metaphysical question of the concept, although in thus defining its own business, it would indirectly indicate the germs of the concrete solutions of the question that have been presented.

18. *Negative conditional propositions.* Can conditional propositions be negative? (I) There are the opposite views about the hypothetical proposition - (a) As distinct from the categorical, its sole function is to express the logical or objective dependence of one relation on another. Non-dependence is no objective relation at all and requires no logical form to express it. The consciousness of it is purely private: that I cannot connect a consequent with an antecedent is a mere subjective incapacity. There is therefore no negative hypothetical. (b) It may be contended however that in any case the negative categorical is allowed in this view (we need not discuss the extreme view according to which no negative relation is admitted in logic) i.e., the negative relation is admitted as objective, though with the implied assumption that it is equivalent to a definite affirmative which may not be known yet. As a logical form then, the negative categorical is admissible where subjectively there is the ignorance of its affermative equivalent. Now there should be a difference between the dependence of an affirmative consequent and that of a negative consequent on a given antecedent. The quality of the dependence itself varies with the quality of the consequent and hence a negative hypothetical should be admitted if a negative categorical is admitted. To be negative the hypothetical need not express non-dependence but only dependence of a negation.

19. The dispute here really turns on whether the quality of the dependence is affected by the quality of the consequent. Where we do not know yet what affirmation is equivalent to the negative consequent, should we say that the hypothetical proposition itself is negative? Should we express the state of knowledge there by a hypothetical form at all? We take the example - 'if the keys cannot be found in this room after so much search, they are not here'. I do not know *where* the keys are then and still it may be useful to express the circumstance in the negative hypothetical form: I need not waste time searching for it in this room for the reason stated. But it is urged in the first view that what is expressed in this proposition is only something subjective: there is no objective connexion between the antecedent and the consequent, the absence of the keys here being not conditioned by the fruitless search. But this only means that the keys have not been removed from the room in consequence of the fruitless search. The absence of the keys need not however mean this positive removal and may yet be a useful truth that is inferred from i.e., is conditioned by the fruitless search as its reason or ground. It is not the content of mere ignorance. Mere ignorance, it may be said, need not be expressed in logic: what is called the privative judgement in logic is *useless.* The proposition about the keys is useful and yet is not the expression of an objective dependence of a positive fact. Should this intermediate state of consciousness between mere ignorance and positive objective knowledge be expressed in logic? Venn has pointed out the fallacy of over-objectification in logic: to him, logic deals with the *passage* from the

subjective to the objective. We hold that logic as dealing with object in the abstract sense of content of thought can never *over*-objectify and that the real truth of Venn's view of that logic deals with the passage from the indefinite to the definite in the object. The useful knowledge about the keys which is not yet positive objective knowledge has a content or object distinct alike from the absolutely indefinite and useless content of ignorance and from the definite object of the positive knowledge of the whereabouts of the keys: it is at once indefinite and definite and as such should have a logical expression. The logic of the indefinite would therefore admit the negative hypothetical and point out that its logical status is indefinite - somewhere intermediate between the forms of positive knowledge and absolute ignorance, and a stage removed in point of definiteness from the negative categorical judgement. The negative categorical is already the explicit objective embodiment of partial ignorance: it assigns a provisional being to negation in relation to a position. In an affirmative hypothetical also, the *contingent* being of the relation in the consequent is such an explicit objective embodiment of partial ignorance: the assertory being of the categorical relation is modified by a negation into a possibility. The negative hypothetical then is an objective embodiment of a double ignorance or negation but is still in view of a position and therefore useful.

20. It may be noted in passing that the issues here are similar to those which arise in the Vedantic discussion of the illusion of illusion.[6] An illusion being positively *given* has an 'indescribable being' according to Vedanta, even when it is corrected. Has the illusion of illusion such a being also? A compromise between plain yes and no is give by some Vedantists viz., that the illusion of illusion is *given* in a way different from i.e., more indefinitely than illusion itself. A similar difficulty may be pressed against Bradley's view of the negative judgement. It presupposes, he says, not a full-formed affirmative judgement but only a question. What is the nature of the question? He himself takes it to be *only psychological,* an ideal suggestion, a floating idea. Bosanquet however would take it as a logical content, a rudimentary disjunction. Sigwart would call it a rudimentary positive judgement - i.e., a merely *given* relation. They all admit that a full affirmative judgement need not be presupposed by the negative and yet *what* precisely do they contend about? It is really somewhere intermediate between the *content* of thought and the mere psychological *fact* of thought. This transitional something between the definitely psychological and the definitely logical can only be taken cognisance of in such logic as has been conceived in this paper.

21. **(II)** As to the disjunctive proposition, the ordinary view is that it cannot be negative in the disjunctive form. The definite element in 'A is either B or C' is that A is in B and C taken together and sometimes the definite side is pushed further to imply the mutual exclusion of B and C. There is indefiniteness then at least as to *which* of the two, B and C, is predicated of A: the disjunctive is so far an explicit embodiment of partial ignorance. It would be held then that 'A is either not B or not C' is not the logical denial of 'A is either B or C', for if the ignorance-element in both is considered, there is no denial, an indefinite being only *indefinitely* related to an

indefinite, and if the knowledge-element in both is considered, B plus C is either the same as or a part of not-B plus not-C. In reference to the knowledge-element however, we intend to point out as in the case of subalternation that if the connotative side as distinct from the denotative side of B and C is considered, there is an intelligible sense in which B plus C may be taken as the negative of not-B plus not-C.

22. Those who hold that 'A is either B or C' do not deny that A may be both really point to this connotative side: the precise relation between the denotations of B and C may remain indefinite according to them when the disjunctive is asserted. From this stand point then 'either not B or not C' would be doubly indeterminate. In 'A is either B or C', it is only affirmed that the connotations of B and C are compatible with that of A. This compatibility is a definite logical content but the mutual relation of B and C understood connotatively is indefinite; the mutual relation of not-B and not-C then would be doubly indefinite. The problem is to find out the value of this double indefiniteness.

23. We may distinguish our position here from at least four positions that may be conceivably advanced. (1) It may be held that the negation of the indefinite 'either B or C' in the form 'either not-B or not-C' has nothing definite in it and is absolutely useless. (2) There is just the opposite view that 'either not-B or not-C' is the same as 'either B or C', B and C being already exclusive. (3) Or it may be held that the mutual exclusion of B and C is indefinite in 'either B or C', and that 'either not-B or C', and that 'either not-B or not-C' makes this definite, that it amounts to a more definite affirmation and is therefore no *negation* at all; it is *extra* affirmation, an *added* truth *side by side* with the definite truth of 'either B or C'. (4) Or it may be urged that this extra affirmation is a *development* of 'either B or C' rather than an accretion, that it is undoubtedly a negation but amounting to an affirmation. 'Either not-B or not-C' is taken as (1) no logical form at all or (2) as identical with 'either B or C' or (3) as different from it but not a denial of it or (4) as a denial of it that amounts to a definite affirmation which is at once same and different. Our position however is that 'either not-B or not-C' is the form of the *indefinite denial* of 'either B or C'. It is denial of the definite element in it - viz., the compatibility of B and C with A: that the compatibility itself is partial or indefinite, is *not* definite is pointed out by 'A is either not B or not C'. As the denial of what is believed to be a definite element in 'A is either B or C', it is itself *believed* in and is not dumb ignorance; it has a useful content which yet is not positive, not the same as the given affirmative nor something co-ordinate with it nor a negation amounting to a definite positive.

24. That 'A is either not B or not C' is the negation of 'A is either B or C' may be shown in another way. The ordinary form given of its negation is 'A is neither B nor C'. This however states more than the mere negation which should be simply 'A *may* be neither'. If not-B and not-C are understood as the negation of the connotative side of B and C, 'A is either not-B or not-C' is equivalent to 'A is either B or C or neither', which means precisely that A may be neither.

25. In speaking of a logical form being useful, we have assumed only for the sake of the argument that the merely privative judgement, the expression of mere ignorance is useless. It is necessary now to point out that the word 'useful' is itself a question-begging term: it dogmatically assumes that the knowing self ought to move towards more and more determinate truth. This assumption itself may be questioned and the logical impulse may be taken to be satisfied in the correction of the given error of determinateness, not in the attainment of new determinations, in getting rid of the limitation of the definite and not in securing increase of definiteness, in the direction of the indefinite and not in that of the definite, - freedom or the absolute state being reached either way. In this 'undefining' process, as we may call it, it is not even necessary that empirical truth should be held fast provisionally. All doubt, including what is taken to be the most irresponsible form of it - viz., absolute skepticism, would be *useful* in this connexion, though there might be grades of usefulness here also. Logic, conceived to deal with the bare dualism of the definite and indefinite can make room for either kind of usefulness or truth.

26. This may be presented in terms of the disjunctive proposition. The proposition 'A is either B or C or neither' may be taken as equivalent to 'A is either B or not-B', the bare form of the Excluded Middle. Now this form may be taken (1) as absolutely useless, a joke, a mere form of ignorance; (2) as the limiting form of disjunction, and therefore a particular case of disjunction, giving us the form of truth i.e., of the universe as constructed by thought out of the unique given; (3) as the form of the determinate - determinate position and negation as co-ordinate - present in all particular disjunctions; or (4) as the abstract form of truth *developed* in all concrete disjunctions, in all grades of determinate knowledge. Not-B in these views is (1) nothing logical at all, (2) logical only in relation to the unique but definite 'givenness' of B, (3) a positive logical content side by side with B and (4) the logical implication of B, as B is of not-B. In conformity to what we have said above, we hold that not-B is something logical, though not definite: it is the logical useful indefinite. 'A is either B or not-B' is a logical negative of 'A is either B or C'; utterly indeterminate in contrast with it but determinate as expressing the fundamental logical principle of the disjunction of the definite and indefinite, the form of the knowable-unknowable, the form of mystery rather than of absolute truth, the limiting mystery of all philosophy.

NOTES

1. Within empiricism in fact is reproduced the opposition between the conceptualistic and dialectic views of the *principium individuationis.* To conceptualist logic, individuality as such is properly a unique category of thought, a simple ultimate thought, and there is sometimes a tendency to abolish it altogether. To dialectic, it is a construction through thought as a function. (i) In the empiricism of Mill, corresponding to the simple *thought* of 'this', appears 'this' individual experience, this given simple being. (ii) In Bain however, experience is taken to be a transition;

properly no term is given but only a passage, a differentiation between terms. Individuality is only an arbitrary point in this transitional process; it is a conflux of relations or generalities. Existence is admitted as a separate category, distinct from co-existence, sequence, and resemblance by Mill but not by Bain. These conflicting views only show that the unit-term or the individual is at once definite and indefinite, the latter aspect being systematically ignored in ordinary logic.

2. Here within conceptualism is reproduced the opposition between empirical and dialectical views of *relation*. To empiricism, relation is a given experience; the elementary relations of likeness and difference are taken as ultimate feelings. To dialectic, it is the *function* of negation, the negation of immediacy, the self-distinction of the given. The conceptualist view splits up into at least two types: (i) relation is an ultimate given though and here the ultimate difference between empiricism and intuitionism is a vanishing one. All relation in fact is positive; negation itself is but positive difference. (ii) Positive relation and negative relation are co-ordinate; absence or void is a category side by side with existence. The given positive stands over against its definite negation: the primary difference is not difference between two positives but between position and negation, this negation being thus a sort of being or position. Thus the distinction between affirmation and negation becomes indefinable. Negation is not being and yet a sort of being. These conflicting views show again that what is taken to be definite relation in ordinary logic is really indefinite.

3. The opposition between empiricism and conceptualism has to be traced as affecting the integrity of the dialectic view of *system* or necessary relation. To empiricism, system is no given being: the past does not *exist* in the present and yet the present is what it is *because* of the past. T. . ground of present knowledge is always non-existent. To conceptualism, the relation of ground and consequent is an eternally existent thought. The dialectic movement presents both these tendencies without reconciling them. As the ground of itself (*natura naturans*), it is a transition, negation of negation, freedom - no existent being. As that consequence of itself (*natura naturata*), it is the *existent* absolute, the *truth* that is thought through and through. This alternation of the dynamic and static aspects in dialectic points to the fact that system or reason is indefinite in its very constitution.

4. The judgement 'A is B' has been understood in at least three ways: (i) A does not exist when A B exists. (ii) A exists when A B exists, (iii) A exists *because* A B does not exist but is a function - the empirical, conceptualist, and dialectic views respectively in typical form. Taking (ii), A is in the limit the unique 'this', transcending the determination A B. As indeterminate, it is as much definite being as negation and thus (i) is justified along with (ii). So in (iii) A B, the function or negation, *is*, i.e., constitutes A, the existent. Thus A or 'this' is negation, being, and their identity in (i), (ii), (iii) respectively: it is in (i) the not-given (not-now-given), in (ii) the given and in (iii) the existent through not being given. A B then is (i) not A, (ii) is not A and yet in A, and (iii) is A by being not A; in other words, the negative relation is *after* the affirmative, *co-ordinate with* the affirmative and *before* the affirmative in the three views. All these variations of view point to the circumstance that relation is at once definite and indefinite: the admission of the indefinite justifies and falsifies all these views.

5. There are the two ordinary views: (i) 'some'means *not* 'all'; (ii) 'some' does not deny 'all' - i.e., (i) some is a definite negation of 'all' (ii) 'some' is indefinite. In both views,

'some' is taken as both definite and indefinite in a sense e.g., in (i) though it means 'not all', it is indefinite which individuals and how many are meant - still it is held that this indefiniteness is only subjective; to logic it means the definite 'not all', definite because 'not all A' means 'all A*x* ' - i.e., the connotation of A as qualified by an unknown but real adjective *x*. In (ii), though 'some' is indefinite as not denying 'all', it means definitely at least one individual having the connotation of the class: the indefinite is thus provisionally treated as definite in logic. The second view does not assume what the first does that 'some A' is necessarily equivalent to *another* universal, viz. A*x*; and the first does not assume what the second does that any individual A is definitely known to have the predicate B in the judgement 'some A is B'. The first would assert 'some A is B' on the two definite grounds (1) that at least one individual A has been found to be *not* B and (2) that therefore the real connection of B is not with A but with A*x*. The second would assert it on the ground (1) that at least one A *is* B and (2) that other A's are either B or not. The first emphasizes the defect of connotation (A should be determined into A*x*); i.e. the indefiniteness of the connotation which is taken to be definite in 'all A' and the second emphsises the indefiniteness of the denotation in 'some A' which is already indefinite in 'all A' though the point is provisionally ignored there. 'All A' in fact is both definite and indefinite, definite in connotation and indefinite in denotation. 'Some A', as indefinite in connotation (A - A*x*) is a negation of 'all A'; but 'some A', as indefinite in denotation, is no negation of 'all A', the indefinite being indefinitely related to the indefinite - The recognition of the indefinite as a logical and not merely a subjective, element brings out the truth of both the views of 'some' and 'all'. The logic of the indefinite thus not only makes conflicting logical doctrines intelligible; it points out the essential indeterminateness of the concept, and the really extralogical character of quantity - showing that logic is here uselessly racked with disputes about what as outside its scope must be disputed and indicating that the doctrine of quantity is capable of being developed, not only from the side of the determinate but also from that of the indeterminate.

6. Something is believed to be real it is next taken to be illusory, and then again on closer observation it may be pronounced *not* illusory. What does 'not illusory' mean?

II

TEMPORALITY AND THE VERIDICAL CONTENT OF LOGICAL STRUCTURE

NAVJYOTI SINGH

I : DELIMITING THE PROBLEMATIC

Construction of theoretical structure has been a significant aspect of human heritage. Thrust towards exactitude and rigor can be witnessed as far as the farthest reaches of historical consciousness. It is precisely this ceaseless thrust that led to appropriation and formulation of theoretical structures in pivotal disciplines of theorization, namely, logic, theoretical mathematics and theoretical linguistics. These three disciplines have a shared foundations in so far as the nature of exact structure (with capability of inferencing) is implicated in their foundational concerns. Rather the very theoretical enterprise of man itself seems to be founded on the constitutive and transcendental features of structure making noumenal activity. In this essay I shall like to aw attention to the nature of logical structure as such and in particular to its relation with overwhelming experience and ceaseless evidencing of time.

Irrespective of this or that theoretical system one can focus on the logical structure engraved in various theories developed in various civilizations and isolate out the problematic of the relation of logical structure and temporality. I propose to indulge in this problematic at a metalogical level. History of ideas, in fact, throws up a great variety of intermeshed theses regarding the relation of time and logical structure. None the less, it is possible to delimit a metalogical predisposition pervasively present in the Greco-European tradition of intellection, that - *veridical content (truth content) of logical structure is atemporal.* It is a significant predisposition that has helped grounding and flowering of much of the enterprise of logic, linguistics and mathematics in the Greco-European tradition including much of the contemporary advances in these fields.

In the second section of the essay I would delimit out the ground and entailments of this predisposition. In the third section I would outline a critique of this predisposition from within the Greco-European tradition and further propose a deconstruction strategy which can overcome the impasse between the thesis and its critique within the Greco-European tradition. It is in the fourth section that I would present a typical rule-structure, evidenced amply in the Indian theoretical heritage, whose veridical content *can not* be reduced to *atemporal statis.* Further, I shall

delineate a predisposition pervasively present in the Indian tradition of intellection, that - *temporality resides within the womb of logical structure even at the veridical level.* How do the two metalogical dispositions indicated above influence the content of logical structure? Is it possible to formulate exact relation between logical structures that stem out of the two dispositions? These two sets of structures can be called atemporal structures and temporally open structures respectively. Can foundations of temporally open logical structures be rigorously advanced? It is with the suggestive notes regarding these questions that I shall close this essay.

Before I go over to the second section I would just mention in passing that the issues being raised in this essay are somewhat analogous to certain modern debates in other realms of discourse - apropos - history versus structure or diachrony versus synchrony. Moreover, this essay directly fuels comparative civilizational concern specially centered around the notion of temporality.

II : ON THE GRECO-EUROPEAN METALOGICAL PREDISPOSITIONS

There are theories that explicitly involve concept of time as an *element* in their theoretical structure. As an instance, Newton's mechanics or even Einstein's theory of relativity involves an explicit element *'t'* which has been interpreted as time.[1]

There are theories ..at embody certain implicit features which because of their time-like properties can be interpreted as time. Irreversibility property resulting from the second law of thermodynamics is an instance of this kind and has been interpreted as temporality.[2]

There are even several proposed logical structures whose intentional features can be interpreted as modelling time. Various variants of Modal logic using possible world semantics (i.e., temporal logic, action logic, logic of change etc.) try to mimic certain properties of temporality using their intentional features.[3]

But all of these theories display logical structures whose truth-content is thought to be strictly *atemporal* though all of them implicate one or other sense of time in their content. Timelessness of their truth-content is thought to be a necessary condition for their logical adequacy and consistency though their subject matter might have elements or features interpretable in the sense of temporality. There is an important distinction that I would like to stress, a distinction between two kinds of content of logical structure - *truth content* and *linguistic content* of logical structure. Something called time might find a place in the linguistic content of logical structure but *not at all* in its truth content.

In fact, certain disposition dealing with the interface of - (1) the nature of temporality, and (2) founding security in knowledge, is involved in making this distinction in the first place. Though knowledge might involve temporal content but

security and surety of knowledge has to be founded timelessly. If logic has an aim to found security, surety and certainty in knowledge then it must have at an apex *atemporal* content. A device for handling *atemporal* content of logical structure called 'formal semantics' has been developed by the turn of this century and is considered prime reason for the modern surge in the study of logic which goes by the name formal logic (or symbolic logic or mathematical logic).

Greeks thought that certain, sure and secure in knowledge must be universals (*katholou*) which have properties like - eternal (*aidion*), indestructible (*aphtharton*), it-exists-in-itself (*kathaauto*) - thus making universals the content of *atemporal* in knowledge. But which expressions are universals and which are not and how does one come to such a decision in a fool proof way? Meaningful expressions are many, but, Aristotle recognized, only some are amicable for a judgement of 'true' and 'false', a judgement Aristotle called *apophansis*. For instance, 'request' or 'prayer' is meaningful but does not yield to a judgement of being 'true' or 'false'. Propositions are those meaningful expressions on which verdict regarding 'true' or 'false' is possible. Logic for Aristotle deals with such judgeable expressions - *logos apophantikos*.[4] The original kernel of the distinction we have referred to can be found in Aristotle for he does not regard 'true' or 'false' verdict on proposition (which has an internal structure of subject-copula-predicate) as a predicate on the 'proposition' itself imagined as subject, to avoid infinite regress.[5] Though 'man *is* mortal' is a proposition but not "man is mortal' *is* true'. The second is a verdict, a second order judgement on an assertion that 'man *is* mortal' and can be regarded as displaying a veridical content of the proposition which itself possesses linguistic content. If linguistic content is not *atemporal*, since mortality has a temporal sense, then, among the meaningful expressions which are judgeable, it is the veridical content which must be *atemporal*. Logic now becomes a study of those forms (*morphe*) of argumentation which conserve veridical content.

But the security of such logic would still depend on the ground which makes possible decision of the veridical content and that ground is none other then the simple flat claim, namely, that of the reality of universals. Decision of the veridical content eventually issues from the realism of universals, an ontological ground, and thus is fatally dependent on the linguistic content of the universals. Thus in Aristotle the distinction between veridical content and linguistic content is not conclusively disambiguited. In the final analysis it is the reality of universals on which the security of knowledge rests.

Can there be a substrate of knowledge itself, an eternal ground of knowledge, a *mathesis universalis*, which can be founded without ontological baggage at all? This is significant since there can be many jealously protected ontologies and after all security and certainty of knowledge should not be susceptible to contingencies of diverging ontologies. Realizing the need to make such a determinate effort, a feeling quite strong by the turn of this century[6], Husserl called for *apophantic analytics* (or simply *apophantics*) of logic.[7] Security in knowledge should be founded

on the self transparent analysis of veridical content itself rather than on any ontological ground which leads to necessary contamination of veridical content with linguistic content. What could be self-transparent, self-sufficient, self-evident analytics of veridical content itself which could found security, certainty and authority of knowledge *atemporally.*

It is Frege who showed the way out by introducing the idea of logical function whose values are 'true' or 'false' for any well formed formula. The value of a logic function $\{f(x): x^2=4\}$ is not ± 2 but 'true' in the logical structure of number theory. He further grounded the distinction I have referred to above by drawing a radical line between *sinn* (sense) and *bedutung* (veridical meaning).[8] Logical function maps 'sense' to 'meaning' and is itself governed by Boolean algebra or later algebraic semantics. 'Meaning' is basically what I am calling 'veridical content' alone and is governed by the analytics of logical function or truth function. Thus was born the programme of truth functional semantics or formal semantics which attempts to fulfill the project of self transparent *apophantic analytics.* That the Fregean founding of the radical distinction between veridical content and linguistic content is an enduring one can be witnessed in the fecundity of modern logic. Modern logic has cultivated and nurtured the study of formal semantics of logical structure independent of the linguistic semantics instantiated in theoretical structures. There is even an attempt to subsume linguistic semantics within the folds of formal semantics (through its possible world semantics version) by Montague grammar. But this apart, the ente rise of modern logic on the basis of the radical distinction between veridical content and linguistics content claims to tap an "everlasting (eternal) elements of truth" (*elementa veritatis eterna*). Mechanization of veridical content of logical structure is yet another milestone in the fulfilling of the predisposition pervasively witnessed in the Greco-European tradition of intellection, namely, that the veridical content of logical structure is *atemporal.* It is yet another victorious move in the drive to expel time out of the domain of *true* knowledge in the spirit of exorcising Satan of time out of the over indulgent knower. This is a metalogical predisposition rooted in the endeavor to establish in a particular way the ground of authority in knowledge and it is this ground of authority which is pervasively engraved in the Greco-European tradition. This predisposition is a proper subject matter of this essay. I would regard it as a *purvapakṣa* and offer its critique in a bid to establish that logical structures whose veridical content is atemporal are reductive in nature and thus crucially restrict the scope of appropriating into a logical theory the logical structures actually found embedded in various theories. The claim is that the more general logical structure can be construed whose veridical content *can not* be reduced to *atemporal statis* and whose reductive instance (or limiting case) are the logical structures with *atemporal* veridical content. Before I propose my final arguments I would dwell on the critique of veridically *atemporal* structure available within the Greco-European tradition.

III : CRITIQUE OF ATEMPORAL STRUCTURE WITHIN GRECO-EUROPEAN TRADITION

Any logic which is unified by the calculus of *atemporal* veridical content would have implicit certain closure norms that would eventually ensure its self composure. The closure properties are those that delimit the totality of that logic as at once accessible and as at once present in a timeless eternal moment, *aei nun.* All elements in that logic are so uniquely daterminable that the entirety of that logic can be construed as 'presence' in hand, as at once given without any intrinsic sense of temporal trace or temporal spillage or temporal incompleteness. 'Presence' is quite like the sense one gets while appreciating givenness of the entirety of infinite element series, {x:x=x+2,x=0}, at once in a timeless eternal moment. If the veridical content of logical structure has intrinsic temporal feature then that structure can not be construed as 'presence' in hand, as at once accessible, since temporality would puncture out the timeless eternal moment itself. Atemporal veridical content coupled with closure of logical structure ensures the composure of logical structure as 'presence', *eternal presence.* 'Presence' is an inalienable metalogical entailment out of the disposition that veridical content of logical structure must be atemporal.

David Hilbert,[9] again around the turn of this century, threw open a challenge in modern logic to explicitly grasp, in a self determinate mechanical way, 'presence' of logical structure since it is only such an endeavor that would found ultimate infallibility and self-sufficiency of atemporal logical structure and thus ultimately fulfill the programme of *apophantic analytics.* Hilbertian challenge, since then known as decision problem in modern logic, has led to some of the most titillating insights into atemporal logical structure. Godel's undecidability theorem (1931) [10] that - in any class of non contradictory formulae of finite axiom logical structure there are undecidable propositions - has been interpreted by many as pointing towards non self-sufficiency of atemporal logical structure. But the idea of 'presence' is much broader and weightier than any such implication of Godelian proof which might have resulted merely due to certain accidental conditions of the device of arithmetising the logical structure. That the idea of 'presence' would outlive contingency of its particular mechanized construal, which might be fallible, is reinforced when one looks at the continuity of the modern logic project. This is borne out further by Godel's unsuccessful attempt for the rest of his life to prove decidability of infinitary axiom logical structure. 'Presence' as a metalogical disposition remained with Godel as a constituting horizon despite his undecidability proof for finite axiom structure which for him was merely a critique of Hilbert's finitistic fetish. 'Presence' in general remains as a horizon still constituting the endeavor enshrined in modern logic since its root lie in the basal predisposition for atemporal veridication of logical structure.

Heidegger notices a deep seated pathology associated with the idea of 'presence', that is, its forgetting of its origin, its oblivion of its disclosure. 'Presence' presupposes multitude of elements which are to be regarded as in-itself identical.

In-itself identity is a minimally sufficient definition of being. It is plurality of beings (construed as elements in logical structure) that get *framed* as 'presence'. This can happen in a manner that the *frame* is prescriptively logical or even in a non logical manner when the *frame* is a descriptive ontology or even when the frame is as suggested by pure phenomenology. Even for the case, which is of our interest, when the frame is logical, a question remains - as to how there happens to be multitude of beings in the first place. Eternally populated and logically saturated 'presence' is irreducibly voluminous. This irreducible manyness must have a shared origin which could found the originary arrival of multitude of beings as well as 'presence'. Heidegger, to overcome this problem, stresses a radical distinction between *Being* and *beings* (the 'ontological difference') as a difference of overwhelming (unconcealing) and arrival (presence). The pathological construal of 'presence' for Heidegger stems from the insight that *closure of beings* would conceal its *disclosure in Being*. Temporality as well as meaning is now safely sought to be situated in the disclosure sense of *Being* prior to the alleged atemporal closure of *beings.*[11] The closure of beings conceals their disclosure and gets appropriated as *atemporal statis* of 'presence'. In such concealment lies a deceit of construing in-itself identity in the place of 'identity with ontological difference (between *Being* and *beings*) in its belly'.[12] Through such a move Heidegger is able to show reductive and deceitful nature of 'presence' in general and that includes also as a case, logical 'presence'. This way he is able to locate root of atemporal disposition which pervades the very Greco-European enterprise of 'meta-physics'.[13] Thus Heidegger is able to disengage *logos* from the clutches of 'presence' and restore it back to the poetic dwelling of man. *Logos* is liberated from the alleged totality and self-sufficiency of 'presence' which is covered up and defended by the enterprise of 'meta-physics'.

Heideggerian move can be seen as a reincarnation within thinking of the disjunctive issue of poetry versus logic. Indeed it can be interpreted as pointing towards intrinsic limitation of the enterprise of logic as such, as a kind of a logically nihilist critique of logic since fecundity and potency of veridically atemporal logical structures is not appreciated by it. Carnap's alarmist rhetorics against Heidegger illustrates amply the force of this disjunction. There seems to be a deep disjunctive cleavage within the Greco-European tradition since Heideggerian critique clearly does not amount to the enrichment of the Greco-European enterprise of logic in terms of its content though it is able to lay bare, in a strong sense, root of the predispositions and the presuppositions involved in the Greco-European tradition of logic. What we are left with here is an impasse which shows up within the Greco-European tradition of intellection regarding logical structure and temporality. On the one hand there is an efficacious predisposition regarding atemporal veridication of logical structure and on the other hand is its critique that the disposition amounts to a deceit since it conceals essential temporality and further the critique does not help enrich the content of logical structure. No obvious reform scheme for the study of logical structure gets suggested by the critique. How does temporality, if the atemporal predisposition is found questionable, enter into the content of logical

structure? How can one construe a temporally open logical structure? Heideggerian insight hardly hints at the clue. How to sidestep this impasse?

It is at this juncture that I would turn to Indian theoretical heritage in the context of the relation of temporality and logical structure. Before I get into substantiating my thesis that in the Indian tradition of intellection is engraved quite deeply a predisposition that temporality resides within the womb of logical structure even at the veridical level and actually display salient elements of such a structure, I would just mention two general notices regarding Indian theoretical heritage.

1. Somewhat analogous to Heideggerian distinction between *Being* and *beings*, though not at all technical and exactly the same, a distinction pervasively witnessed in Indian theoretical heritage is between *avyakta* (unmanifest) and *vyakta* (manifest). There are several other loosely analogous formulations of such distinctions, like, between *parā* - *aparā* (ineminent - eminent) or *aparimita* - *parimita* (unbound - bound) or *amūrta* - *mūrta* (unformed - formed) in different theories found in Indian theoretical heritage. Such distinctions help us understand why any theoretical structure or philosophies found in Indian heritage cannot be appropriated as 'presence' or 'metaphysics of presence'. This remark is just to create a sense of continuity from this section to the next where I present a logical structure which at a veridical level is temporally open.

2. In Indian theoretical tradition one finds a mute but pervasive disposition that any philosophically significant term must have a usage as verb, that is, any term would have a root component (*dhātu*) with verbal meaning and from where its several non ambiguous usage stem. Pure nominal stems (*pratipādika*-s) are basically conventional and thus do not have philosophically interesting semantics. This disposition has been cultured by the Indian linguistics tradition which generally enjoyed the status of queen of theoretical sciences in the civilization. If meaning of any philosophically significant term has roots in the verbal usage, as verbal sense, there is an essential nexus between philosophical terms and temporality. The term 'truth' is quite unique since one can not find its any derivative term that has a usage as verb. Term 'false' for instance has such a usage in 'falsify' or term 'knowledge' has such a usage in 'to know'. The term 'truth' is unique with an unfettered accompanying sense of atemporality or at best temporal indifference. There can simply be no such analogous term in Indian theoretical discourse. This is a significant background note that helps grasp why Indian tradition would not have entertained a disposition that veridical content of logical structure is atemporal and also why such a disposition could be regarded as suspect from the vantage ground of Indian theoretical heritage.

Without getting into any further predispositional analytics of Indian theoretical tradition in any details I would straight away go over to the nature of logical structures nurtured in the Indian civilization. The two general dispositional notes merely suggest that one can expect working out of temporally open structure in Indian heritage. But such an expectation can be only fulfilled if rigorous foundations of temporally open structure can be advanced. It is my contention, the deconstruction strategy I rely on in this essay, that Indian heritage can be an inspirational ground to sidestep Greco-European impasse in the context of the relation of temporality and logical structure and further to advance foundations of temporally open logical structure.

IV : TYPICAL INDIAN LOGICAL STRUCTURE WITH TEMPORAL OPENITY EVEN AT VERIDICAL LEVEL

Theories found in Indian heritage are rule based presentations. By theories I mean various *prayojana śāstra*-s which includes entire range of traditional disciplines such as *Vyākaraṇa* (grammar), *Chanda Śāstra* (prosody), *Vāstu Śāstra* (architecture), *Tāla Śāstra* (rhythm), *Dharma Śāstra* (theory of justiciation) etc. etc. A noticeable feature of the rule structure embodied in these *prayojana sastra*-s is the pervasive recognition of the two broad species of rules. I shall be using an ancient treatise on phonetics, **Ṛg Prātiśākhyā** of Śaunaka (700-500 BC),[14] to present essentials of the typical Indian rule structure of theory and to articulate nature of the two species of rules and their inter-relation.

The two broad species of rules that constitute logical structure are:

1. Universal rules (*sāmānya* or *nyāya* or *utsarga sūtra*). These are the rules which are universally applicable in certain large domain. Uvaṭa in his **Bhāṣya** on [*Rg Prat.* 1.53] calls them - *Mahāviṣaya vidhayaḥ* - "In force over whole domain of content". The entirety of the domain of content is theory specific and universals hold good for the entire domain. For instance, in the theory of euphony (*sandhi*), a universal rule would be [*Rg Prat.* 4.1] - "contact consonants + consonants = do not conjoin", such euphony is called *avasangama sandhi*.

2. Exceptional rules (*apavāda* or *viśeṣa* or *pratikaṇṭha* or *nipātana sūtra*). These rules are applicable over a small domain, a sub domain of the larger theoretical domain. Uvaṭa on [*Rg Prat.* 1.53] calls them - *Alpaviṣaya vidhayaḥ* - "In force over sub-domain of content". Not only that they are applicable over small domain they invariably over rule (*bādha*) one or other universal which happens to be in force over that sub-domain and whose content clashes with the content of exceptional rule. For instance, an exceptional rule [*Rg Prat.* 4.2] to earlier cited universal rule [*Rg Prat.* 4.1] is - "contact consonants of class (*ka, ca, ṭa, ta, pa*) + soft consonants =

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contact consonants of a class (*ga, ja, ḍa, da, ba*) + soft consonants (and which do not conjoin)". Since soft consonant is a sub domain of consonants and also only a class of contact consonants is involved in the exception, this rule over rules the universal cited above. Exceptions can be just an instance of an irregular individual form (*nipātana*) thus its sub-domain can be as small as one instance. Exceptions can over rule one universal or a set of universals or even entire corpus of universal rules.

For the purpose of the essay it is the metalogical relation between these two species of rules that is of interest. Two interpretation rules, called *paribhāṣā sūtra*, in [*Rg Prat.* 1.53 and 1.54] and commentaries thereon present the nature of this relation. Interpretation rule 1.53 suggests that the logical structure is constituted by mutual knitting of the two species of rules - *Nyāyaurmiśraṇāpavādānpratiyata*. And further the idea is reinforced by Uvaṭa's comment on the same - *apavādān utsargauḥ eikikṛtān jāniyata* - "Exceptions and universals should be considered as mixed (knitted) in one (system)". What is interesting is the principle disposition behind their being considered as essentially knitted together. Uvaṭa while fixing the meaning of the term for universal, *utsarga* (*ut* + *√sṛj* : exclusion), says - *apavādaviṣayaṃ muktvotsargaḥ pravartanta* - "Content domain of exceptions when vacated is the (restricted) realm of the force of universals". That the exceptions over rule force of universals when the two are applicable over the same content sub-domain. Exceptions are metalogically stronger since their content domain is smaller where as universals are metalogically weaker relative to them since their content domain is larger and get invariably over ruled (*bādhya*) in case of the intersecting sub domain with exceptions (*bādhaka*). Exceptions are by necessity always formulated in counter position of universal rules which they eventually substitute in the sub domain. Interpretation rule 1.54 states - *Sarvaśāstrārthaṃ pratikaṇṭhamuktaṃ* - "Exceptional instances free the content domain of the entire theory (from the grip of universals)". The metalogical opposition (*bādha bija*) between universals and exceptions lends unusual rich structural features to the logical structure. Simply because exceptions *can not* be deduced from given universals. There seems to be an irreducible *wedge* between the two that punctures construal of such logical structure as 'presence'. There is no way to deduce occurrence of exception. There seems to be still deeper metalogical disposition which as a horizon constitutes this structure with an irreducible *wedge* between the two species of rules.

Such a predisposition can be formulated as:

> There is no *a priori* ground to rule out an exception to a universal rule though one may not be able to supply one

Not that every universal rule formulation *has* an exception but only that there is no apodictic ground which can rule out an exception to any arbitrary universal rule in the theory. Any universal rule can stumble over an exception any time in indefinite future though there might be no evidence or even a hint of a counter instance. This predisposition introduces a vital feature of temporality within the womb of logical structure, namely, *temporal indefinitiveness of the veridical content of universal*

rules. Veridical content of the universal rule can not be *a priorily* protected against the authority of time since its exception or possible exception can simply over rule it in definite locality. Thus temporality gets introduced inalienably even at a veridical level of the logical structure. Logical structures, embodied in several traditional Indian theories, are born out of such a metalogical predisposition that internalises temporal openity at a level of their veridical content. And it is this temporal openity which is synchronically frozen in an irreducible *wedge* (*bādha bīja*) between the two species of rules.

Whatever be the details of such a temporally open logical structure the *wedge* ensures that exceptions *can not* be deduced from the universals, that is, no closure rules can be formulated which can enumerate exceptions given a set of universal rules. The *wedge* ensures that the logical structure can not be appropriated as 'presence' in a veridical sense. The *wedge* resolves Greco-European impasse in a sense that it ensouls radical critique of 'presence' and at the same time adds to the content of logical structure. It overcomes Heideggerian nihilism and puts in logical content within what Heidegger captures by his potent notion of 'ontological difference'. The *wedge* is a radical rupture of the timeless moment, which supposidely beholds 'presence', into temporal spillage. The closure of moment is ruptured in its abyss to yield temporally indefinite shape of moment itself but temporally open definite shape of what beholds in the moment. Veridical content of logical structure is a shape of timeless moment where as linguistic content is what moment beholds. The *wedge* makes veridical content temporally indefinite but still enables appropriation of linguistic content in exact structure, a temporally open structure. The *wedge* presents one modality of rupture where as 'ontological difference' presents another but *wedge* is a logically potent rupture where as 'ontological difference' is not since it merely brings to foreground unsurmountable disjunction of poetry versus logic and is contented in celebrating that and in the process abandons logic.

The predisposition stated above when appropriated synchronically (*akramaka dṛṣṭi*), as a moment, yields irreducible *wedge* between the two species of rules and when appropriated diachronically (*sakramaka dṛṣṭi*), as a duration (history), yields structure of theory change and refinement. The predisposition formulated above captures both synchronic and diachronic interpretations of the Indian logical structures. For instance, logical structure of Pāṇini's **Aṣṭādhyāyī** is not only itself full of exceptions synchronically but also diachronically is reformed by induction of exceptions in the form of Kātyāyana's *Vārtika*-s which were put to examination in Patañjali's **Mahābhāṣya**. The foundational unity of what beholds in a moment and what transforms in a duration is captivated in the predisposition and its product, the temporally open logical structure. That explains extra-ordinary longevity of Indian theoretical structures. I shall end by penning down two suggestive notes on synchronic and diachronic interpretative extensions of the temporally open logical structure. These are the two lines along which formal properties of the temporally open structures can be studied fruitfully.

1. **Synchronic features**: Given a generalized logical structure, constituted out of the mutual knitting of the two species of rules, several interesting formal properties get suggested. One of the most potent intuition is the following:

If by some mechanism it is possible to filter out all exceptions from the system (or to extract out all universals from the system) and let the force of exceptions disappear then the logical structure would reduce to a limiting case of 'first order logic with Godelian residue'. In fact, for this to be possible many reductive steps will have to be taken if one begins with an appropriate and perhaps restricted variant of the general temporally open logical structure. One, the universal rules be transformed in a way that they can be interpreted in first order predicative form and, two, the arithmatisation of the *wedge* has to be formalized using disjunction between rational and real numbers. In fact, metalogically one should be able to exactly and rigorously demonstrate that logical structures with atemporal veridical content are a limiting case (reductive instances) of the logical structures with temporal veridical content. Since forgetting the *wedge* would reduce Indian logical structure to another instance of logical 'presence'. Thus demonstrating that much of the Greco-European logical investigations are limiting cases of the more potent temporally open logical structures worked on in the Indian theoretical heritage.

2. **Diachronic features:** The process of formulating universal rule is a durationally drawn out process in time. A particular formulation of a universal rule might call for reformulation in the light of overwhelming evidences of counter instances. Even a reformulated universal rule might need further reforms because of the evidence of exceptions since universals are supposed to hold good for the entire content domain of the theory. Construction of theory involves formulating of several universal rules and each undergoing above described diachronic process. It is the systemic cogency of the theory that would put an end to such a parallel diachronic reform of universals and the system will stabilize by formulating the structure with universals embedding within their folds exceptions which could not be accommodated in reformulated universals. Thus finally arriving at temporally open logical structure of a theory. Theory change, in this incremental model of theory construction, can be internalized as was the case with *Vārtika*-s reforming **Aṣṭādhyāyī** at the level of exceptions. This way temporally open logical structure can be used to model theory construction as well as theory change specially in the situation when theories have remarkable longevity.

To sum up, I have drawn attention to two ideational streams of temporal and atemporal metalogical dispositions. These dispositions give rise to different logical structures. Structures born out of *atemporal* disposition seems to be limiting cases of structures born out of *temporal* disposition. Rigorous advancement of the foundations of temporally open structures can not only subsume insights developed in the context of atemporal structures but also open more encompassing frontiers for the study of logic and theoretical structures. This way, unconcealing and overwhelming feature of temporality can be founded in the citadel of logic.

NOTES

1. G.J. Whitrow, *The Natural Philosophy of Time.* 2nd edition. Oxford: Clarendon. 1990. The '*t*' coordinate in Physics does not allow for 'anisotropy' with possibly one queer exception of the behavior of the K-meson [p. 355 f.]. The mirror image in '*t*' does not alter the fundamental laws (and thus the structure) of physics.
2. This view has been advanced by ambitious recent developments in non-equilibrium thermodynamics. Ilya Prigogina, *From Being to Becoming.* San Francisco: W.H. Freeman. 1990. Ilya Prigogina and Isaballe Stengers, *Order out of Chaos : Man's New Dialogue with Nature.* New York: Bantam Books. 1984.
3. C.I. Lewis in *Survey of Symbolic Logic.* Berkeley, 1918, disambiguates implication in the sense of necessity and possibility. The intentional aspect of sense of implication becomes richer to yield intentional logic (Modal logic). Necessity and possibility can be interpreted as 'always in the future' and 'sometimes in the future' to yield temporal logic (with some modification dynamic logic of Pratt or Floyd and Hoare). Alchourron, Gardenfors and Makinson extended the same idea to develop logic of change in a joint paper in *Journal of Symbolic Logic*, 1985. Earlier attempts in the similar direction were of Arthur Prior, *Time and Modality*, Oxford, 1957. And see, N. Roscher, *Temporal Logic*, New York: Springer - Verleg. 1977.
4. Aristotle, *On Interpretation*, 4.17a.3-5. In *The Works of Aristotle*, edited with English translation by J.A. Smith and W.D. Ross. 12 Vols. Oxford, 1908-1952.
5. Aristotle, *Metaphysics*, 4.8.1012b22. *Ibid.*
6. The locus of this feeling can be discovered in three contemporaneous towering figures - Frege (1848-1925), Husserl (1859-1938) and Hilbert (1862-1943). Glimpse of their physical and ideational togetherness can be had from the correspondences of Frege in - Gottlab Frege, *Philosophical and Mathematical Correspondence.* ed. by Cottfried Gabriel *et al* and translated by Hans Kaal. Cicago: University of Chicago Press. 1980.
7. Edmund Husserl, *Formal and Transcendental Logic.* Translated by Dorion Caims. The Hague: Martinus Nijhoff. 1969, p. 43.
8. Gottlab Frege, *Collected Papers on Mathematics, Logic, and Philosophy.* Ed. by Brain McGuinness and translated by Max Block *et al.* Oxford: Basil Blackwell, 1984. The distinction is drawn in the essay "On Sense and Meaning", 1891. pp. 137-156. Other two essays of significance for our purpose are "Function and Concept", 1885, pp. 123-136 and "On Concept and Object", 1892, pp. 182-194.
9. David Hilbert, "On the foundations of Logic and Arithmetic", 1904; "On the Infinite", 1925, and "The Foundations of Mathematics", 1927; reprinted in J van Heijenoort, ed., *From Frege to Godel: A Source Book in Mathematical Logic, 1879-1931.* Cambridge: Harvard University Press, 1977.
10. Kurt Godel, *Collected Works*, Vol. 1: Publications 1929-1936. eds. S. Feferman et. al. Oxford: Oxford University Press, 1986. This includes his famous 1931 paper.
11. Martin Heidegger (1927), *Being and Time.* Translated by John Macquarrie and Edward Robinson. New York: Harper and Row. 1962.
12. Martin Heidegger (1957), *Identity and Difference.* A bilingual edition. Translated by Joan Stambaugh, New York: Harper and Row, 1969.

13. Martin Heidegger (1961). *The End of Philosophy.* Translated by Joan Stambaugh. New York: Harper and Row, 1973.

14. Śaunaka, *Ṛg Pratiśākhyā* with Uvaṭa's *Bhāṣya.* Edited with text and translation into Hindi by V.K. Varma. Varanasi: Banaras Hindu University Press. 1970. In the text it is referred to as *Rg Prat.*

III

भारतीयानां संस्कृतयः कालनिरपेक्षा : उत सापेक्षा :

पु.न. पट्टाभिराम शास्त्री

संस्कृतिशब्देन प्रथममिदं निश्चेतव्यम् – यद्विधिनिषेधानुसारेण 'आचरणम्' इति । विधिनिषेधाश्च प्रामाणिकग्रन्थेन प्रामाणिकपुरुषोपदेशेन वाऽवगन्तव्याः। प्रामाणिकग्रन्थश्च पुरुषदोषलेशासंस्पृष्टो विवक्षितः । प्रामाणिकपुरुषाश्च ते परिग्राह्याः ये च शमदमवैराग्य तितिक्षादिगुणसम्पन्नाः सर्वलोकहितङ्करैकतानमतयः जिनबुद्धाद्याचार्याः। तत्र –

मातेव पुत्रमवबोधयति श्रुतिर्हि लोकं समस्तमपि योजयितुं सुखेन ।
तस्माच्छ्रुतेरनुमतार्थमतन्द्रितेन भावेन साधयितुमत्रजना यतध्वम् ।।

इति प्रामाणिकवचनेन मातृस्थानापन्नाया भगवत्याः श्रुतेर्वचनानुसारेण वर्तनं यदि भवेत् तर्हि सर्वस्य लोकरू पुखसमृद्धिर्भवतीति ज्ञायते । अत्र सुखपदं साधारणमर्थं न ब्रूते । नियमानुसरणे यत्सुखं तेन सुखेन लोकं समस्तमपि श्रुतिर्योजयतीति सुखशब्दोऽत्रत्यो बोधयति । श्रुतिशब्दवाच्यः कश्चन ग्रन्थविशेषो विवक्षितः – श्रवणेनैव स ग्राह्यो भवतीति श्रुति शब्देनोच्यते । स एव ग्रन्थविशेषो वेदशब्देनाभिधीयते। वेदश्च पुरुषदोषलेशासंस्पृष्ट इति महर्षिजैमिनेरनुशासनम् । अत व तस्य स्वतः प्रामाण्यमत्यनुशास्ति । शास्त्रान्तरकारा गौतमकणादादयः आप्तोपदेशो वेद इत्यङ्गीकृत्य तस्य परतः प्रामाण्यं साधयन्ति । अत्र कस्य वचो ग्राह्यम् कस्य च त्याज्यम् इति सन्देहे वेदेन सह यस्य नियतस्सम्बन्धः तस्य वचः ग्राह्यं भवति, गौतमादेस्तु न तादृशो नियतस्सम्बन्धः, अतोऽस्मिन् विषये जैमिनेरेव वचो ग्राह्यं सिध्यति । जैमिनिरेव एकैकं वेदवाक्यं परिगृह्य स्वीये दर्शने विचार्य निर्णयं दर्शयति, गौतमकणादादयो लौकिकपदार्थानामेव स्वीये दर्शने स्वरूपं विचारयन्ति । अतोऽत्र जैमिनेरेव मार्गोऽनुसरणीयः । विषयाणां निर्द्धारणाय जैमिनिरेव न्यायानुपदिशति । जैमिनिन्ययानवलम्ब्यैव विप्रतिपन्ना विषया निश्चेतव्या भवन्ति ।

प्रकृते विप्रतिपन्नो विषयः भारतीया संस्कृतिः कालनिरपेक्षा उत कालसापेक्षेति । यदि संस्कृतिः प्रामाणिकग्रन्थगतविधिनिषेधाश्रिता तर्हि सा कालनिरपेक्षा, यदि च विधिनिषेधानुसरणेन विना मानवबुद्धिमात्राश्रिता तर्हि कालसापेक्षा । आहार–विहार–व्यवहाराचरणादिषु संस्कृतिः परिचीयते। आहारविहारादयो विधिनिषेधाश्रिता इति चिरन्तनी भारतीया सरणिः । विधयो निषेधाश्च वेदैकसमधिगम्याः स्मृतिकर्तृभिः मनुयाज्ञवल्क्यगौतमप्रभृतिभिर्महर्षिभिः सङ्गृहीताः । वेदस्य कालो न निश्चेतुं केनापि पारितः । वेदसम्बन्धरहितैः पाश्चात्यविद्वद्भिः भाषाविज्ञाना–धारेणनुमिन्वन्ति ऋग्वेदस्यायमध्यायो मण्डलं वा प्राचीनम् अर्वाचीनमिति तदेव भारतीयैः

आङ्ग्लभाषामाध्यमेनाधीतसंस्कृतैरपि पिष्टं पिष्यते । नाहं भाषाविज्ञाने दोषमुद्भावयामि, भाषाविज्ञानेन बुद्धिवैशद्यम् अनुसन्धानात्मिकाया दृष्टेर्वर्धनम् इत्यादयस्सन्त्यनेके गुणाः, किन्तु भाषाविज्ञानेन यन्निश्चीयतेऽनुमीयते वा तेन शास्त्राविरोधिना शास्त्रानुसारिणा च भवितव्यम् । न्यायशास्त्रविदो वाक्यत्वहेतुना रामायणभारतादिवद्वेदोऽपि केनचन विरचितस्स्यादित्यनुमिन्वन्ति तदिदमनुमानं शास्त्रानुसारि वर्तत इत्यङ्गीकर्तव्यम् । तत्र जैमिनिनोच्यते रामायणभारतादिषु प्रणेतारो वाल्मीकिप्रभृतयः स्मर्यन्ते । अर्थात्स्मर्यमाणकर्तृकत्वं तेष्वस्ति, वेदेषु च तादृशस्मर्यमाण– कर्तृकत्वं यदि भवेत्तर्हि अमुककर्तृकोऽयं वेद इति वक्तव्यं भवेत् । तत्तु वक्तुं न केनापि पार्यते । दृष्टान्ते रामायणादौ वाक्यत्वहेतुना सकर्तृकत्वमस्तीति सत्यम् स च कर्ता तत्र स्मर्यते । वेदे वाक्यत्वमस्ति परं कर्ता न स्मर्यते । अन्ततः अस्मदादीन् परित्यज्य ईश्वरकर्तृकत्वं तैस्स्वीकृत्य गन्तव्यं भवेत्, यैर्वाक्यत्वहेतुना सकर्तृकत्वं साध्यते। ईश्वरकर्तृकत्वं नाम ईश्वरोपदेशरूपत्वमेव । सर्वशक्तिमान् ईश्वरः अस्मदादिरिव 'अर्थं बुध्वा शब्दरचना' इति विधया मषीं लेखनीञ्चादाय वेदं रचयामासेति स्वीकारे सर्वशक्तिमत्त्वहानिस्स्यात् । 'यः कल्पस्स कल्पपूर्वः' इति न्यायेन संसारोऽयमनादिः । जगतःसृष्टिप्रलययोस्सतोरपि बीजाङ्कुरन्यायेन ऋतुलिङ्गन्यायेन प्रवाहानादित्वन्यायेन च जगतोऽनादित्वम् ईश्वरोपदेशात्मकवेदस्याप्यनादित्वं स्वीकृतं जैमिनिना। यदा हि कालनिरपेक्षतया वेदोऽनादिः तदा तद्गतविधिनिषेधानामप्यनादित्वं स्वत एव सिध्यति । कालनिरपेक्षतया प्रवृत्तेषु विधिनिषेधेषु तत्प्रतिपाद्या अपि संस्कृतयः कालनिरपेक्षा एव भवेयुः । विधिविषया अनुष्ठेया भवन्ति – 'सत्यं वदेत्' 'परद्रव्यं लोष्ठवत्पश्येत्' 'नानृतं ब्रूयात्' 'न परदारान् गच्छेत्' 'जन्मलोत्सर्गे मृदा जलेन च शोधयेत्' 'शुचि वा कर्तव्यम्' 'आचान्तेन कर्तव्यम्' 'गुरुरनुगन्तव्यः' 'पितरौ शुश्रूषया रक्षणीयौ' इत्यादिभिर्विधिनिषेधैरवबोधिताः संस्कृतयः अनुष्ठानविषया भवन्ति। केचन पदार्थाः विधिवाक्येषु विद्यमाना अपि विधेयत्वं न भजन्ते । विधिविषयत्वाभावेऽनुष्ठेयत्वमपि न सिध्यति । तत्र –

'देशः कालो निमित्तञ्च फलं संस्कार्यमेव च ।
मीमांसानिपुणाः प्राहुरनुपादेय पञ्चकम्।।'

इति प्रमाणेन देशकालादीनामनुपादेयत्वम् अविधेयत्वं साधयन्ति मीमांसकाः। विधि–निषेधैस्संस्कृतीनामनुष्ठेयत्वे सिद्धे तासामनुष्ठानावसरे प्रयोगविधयः देशकालादिकं संयोजयन्ति। तथाहि– 'यावज्जीवमग्निहोत्रं जुहोति' 'यावज्जीवं दर्शपूर्णमासाभ्यां यजेत' इत्यादि वाक्य–विहितानां कर्मणामनुष्ठेयत्वे सिद्धे अनुष्ठानावसरे 'सायं जुहोति' 'प्रातर्जुहोति' 'पौर्णमास्यां यजेत' 'अमावास्यायां यजेत' 'समे यजेत' 'प्राचीन प्रवणे यजेत' 'वसन्ते वसन्ते ज्योतिषा यजेत' इत्यादयो विधयः प्रयोगकाले कर्मभिर्योजयन्ति देशकालादिकम् । आचार्यस्य सेनापतेर्वाऽनुशासनानि शिष्यैः सैनिकैश्च पालनीयानीत्यवगते शिष्या वा सैनिका वा गुरुं सेनापतिं वा न प्रष्टुमर्हन्ति कस्मात्कालाद्भवतामनुशासनानि पालनीयानीति । यदैव गुरुस्सेनापतिर्वा अनुशास्ति तदैव शिष्यैस्सैनिकैर्वानुष्ठेयं भवति । सेनापतिश्चेत्सैनिकानाज्ञापयेत्– अस्मिन् गर्ते निपतध्वम् इति तत्र सैनिका न प्रष्टुमर्हन्ति – 'कुतः कदा' इति । तादृशा भवन्ति वेदेषु विधयोऽस्मत्संस्कृत्यवबोधकाः ।

उत्सर्गापवादादिविधिष्वप्ययमेव न्यायः – अग्निहोत्रं दर्शपूर्णमासौ, कर्मान्तरं वाऽनुष्ठातुमुद्यतः पुरुषः 'यदाहवनीये जुहोति' इति विधिं जानन्नेव प्रवर्तते। यदा होमः प्राप्तो भवति तदाऽधिकरणत्वेनाहवनीयः प्राप्नोति । यत्रैव विहितद्रव्यस्य प्रक्षेपात्मको होमः प्राप्नोति तत्राधिकरणत्वेनाहवनीयाग्निः प्राप्नोति । एतदपवादकं 'पदे जुहोति' इति शास्त्रम् । पदाधिकरणकहोमविधानावसरे न कालमपेक्षते– पदाधिकरणकहोमः कर्तव्य इत्यर्थं विधाय चरितार्थमिदं शास्त्रम्। यश्चकर्मणः प्रयोगकर्ता स जानति – अत्र मया पदाधिकरणकहोमः कर्तव्य इति । उत्सर्ग– शास्त्रमत्राप्यागतम् किन्तु स्वकार्यमन्येन साध्यत इति तत्स्वयमपसरति। अर्थादितदतिरिक्तस्थले ममावकाशोऽस्तीति विवर्तते। अयमेव सामान्यविशेषशास्त्रयोरपि न्यायः । कश्चन गृहस्थः स्वीयगृहसम्बन्धिकार्यसामान्यसम्पादनाय कञ्चन नियुङ्क्ते, विशेषकार्याय पाकायापरं नियुङ्क्ते । तत्र कार्यसामान्यसम्पादकः पाकरूपविशेषकार्यस्थले स्वयं न प्रवर्तते, तदर्थमन्यस्य नियुक्तत्वात्। अत्र कालसापेक्षत्वस्य का आवश्यकता? एवमेव व्याकरणेऽपि पाणिनिसूत्रेषु उत्सर्गसूत्रं सावकाशं अपवादसूत्रञ्च निरवकाशमिति रीत्या अपवादातिरिक्तस्थले उत्सर्गस्य प्रवृत्तिरिति स्वीकारे, उत्सर्गस्य वाऽपवादस्य वा कालसापेक्षता कुतस्स्यात् ? सर्वत्र विधयः समर्थं प्रत्येव प्रवर्तन्ते। पुरुषविशेषणत्वेनाश्रूयमाणमपि अधिकारिविशेषणत्वेन विद्या, अग्निः सामर्थ्यञ्चेति विशेषणत्रयं मीमांसकैः स्वीकृतम् । आहवनीयविधिः उत्सर्गविधिः । तस्यापवादस्थले प्रवृत्तौ सामर्थ्यमेव नास्ति । आहवनीयो नाम कुण्डविशेषगतालौकिकोऽग्निः । तस्य पदे प्रवृत्तिरेव न भवति । पदं नाम यजमानः सोमयागानुष्ठाता सोमक्रयणाय गां नयति। नीयमानाया गोः सप्तमं पदं यत्र निपतति तत्र होमविधायकमपवादशास्त्रम् । कुण्डविशेषादग्निं बहिरानीय पदे निक्षिप्य होमे क्रियमाणे तस्याग्नेराहवनीयत्वमेव भग्नं भवति । अतस्तत्राऽऽहवनीय शास्त्रस्य प्रवृत्तिरेव नास्ति । अतः सामान्यशास्त्रस्याप्रवृत्तिकाले विशेषशास्त्रं (अपवादशास्त्रं) प्रवर्तत इति कालसापेक्षत्वम् नोत्सर्गस्य नाप्यपवादस्य । व्याकरणेऽपीयमेव रीतिः।

संस्कृतयः कालसापेक्षाः उत निरपेक्षा इत्यस्य किं तात्पर्यम् ? संस्कृतिपदेन न द्रव्यम् नापि गुणः न वा सामान्यादिरभिधीयते। किन्तु संस्कृतयः क्रियायामन्तर्भवन्ति – सत्यभाषणम्, पित्रोः गुरोश्चानुशासने वर्तनम्, वैदुष्यसम्पादनम् इत्यादयः । इमाश्च नापेक्षन्ते कालम् एतासां बोधका ये विधयस्तेषामपि नापेक्षा कालस्य। कस्मात्कालान्मया सत्यभाषणं कर्तव्यमिति न कालमपेक्षते मानवः । एवं सति गोष्ठ्यां विचारायायं विषयः कुतो निर्दिष्ट इति जायते शङ्का ।

तत्रैवं शङ्काया निरासो भवितुमर्हति – यो देशः पुरा देशान्तराणामनुकार्यस्थानेऽविद्यत, स एवेदानीं वैज्ञानिकयुगे देशान्तराण्यनुकुर्वन् महता वेगेन वर्धते । यथा पाश्चात्यदेशेषु वर्णाश्रमधर्मा न सन्ति, एक एव गौरवर्णस्सर्वेषां शिखासूत्रयोरभावः, गोत्रविभागाभावः, तथैव भारतेऽपि भवतु, तदर्थं स्त्रीपुरुषयोर्बलाद्विवाहः कार्यते शासनेन, येन वर्णसङ्करा जायेरन् । वर्णसङ्करेषु जातेषु न शिखासूत्रयोर्गोत्रस्य वा स्थितिर्भवेत् । जननाशौचं वा मरणाशौचं वा न तत्र परिगण्यते, तथैव भारतेऽपि अस्पृश्यताया निवारणम् । येन केनापि प्रकारेण द्रव्योपार्जनम् कामोपभोगाश्च, क्षुन्निवृत्त्यर्थं, यथा तथा वा यस्य कस्य वा पदार्थस्याभ्यवहरणम्। एवमादिषु सम्पद्यमानेषु भारतीयास्संस्कृतयो लोपं गताः । भ्रष्टाचारा व्यभिचारा दुराचारश्च प्रत्यहमेधमानास्सन्ति । अस्मिन्

व्यतिकरे भारतीयसंस्कृतिप्रचाराय कालसापेक्षत्वं संस्कृतीनामस्ति नवेति निर्णयाय गोष्ठी समारभ्यते चेत् नूनमिदं कार्यं प्रशंसार्हम् ।

उत्सर्गापवादस्थलेऽपवादशास्त्रं उत्सर्गशास्त्रस्य बाधकं परिगण्यते । अपवादशास्त्रेणो-त्सर्गशास्त्रं बाध्यते। बाधकोऽपवादः, बाध्यश्चोत्सर्गः । यस्मिन् काले उत्सर्गः प्राप्नोति तस्मिन् कालेऽपवादः तं बाधत इति अपवादशास्त्रं उत्सर्गप्राप्तिकालमपेक्षत इव प्रतिभाति, किन्तु लक्ष्यैकचक्षुर्महर्षिः पाणिनिः लक्ष्याण्यनुभूय लक्षणानि विदधाति । 'दध्यत्र' 'दधीप्सितम्' इति लक्ष्यमवलोक्य तत्सिद्धये 'इको यणचि' 'अकस्सवर्णे दीर्घः' इत्युत्सर्गापवाददशायां शब्दप्रयोगः कथं सिध्यतीति सूत्रयति पाणिनिः । अत्र कालापेक्षा न पाणिनेरस्ति, नापि शास्त्रस्य । प्रथममु-त्सर्गशास्त्रम् अनन्तरमपवादशास्त्रमिति क्रममपि पाणिनिर्नावलम्बते । सुट् विधायकमपवादसूत्रं पूर्वम्, नुट्विधायकमुत्सर्गसूत्रमनन्तरं दृश्यते। एवं पौर्वापर्यमनियतमेव दृश्यते । किञ्चाऽप्राप्तमेवो-त्सर्गशास्त्रमपवादेन बाध्यत इत्यत्र सुलभान्युदाहरणानि मीमांसायाम्। अयञ्चात्र निष्कर्षः द्वयोस्तुल्यबलयोः मिथश्च विरुद्धयोः न बाध्यबाधकभावः, किन्तु विकल्पः, एकं प्रबलम् अपरञ्च दुर्बलम् । द्वे अपि एकत्र समाविष्ठौ, तत्र प्रबलं दुर्बलं बाधते, प्रबलदुर्बलयोर्मध्ये दुर्बलञ्चे-त्प्रबलाश्रितं, तस्यैव प्राबल्यम् तेन दुर्बलेनापि प्रबलं बाध्यते, दुर्बलस्य प्राप्त्यनन्तरमेव प्रबलेन बाध्यत इति नास्ति नियमः, (प्रबलस्थानपर्यन्तमागतस्यैव दुर्बलस्य बाध इति नास्ति नियम इत्यर्थः) उत्सर्गशास्त्रं अपवादस्थले समागत्यैवापवादेन बाध्यत इति नियमो नास्ति । प्रत्याम्नानस्थले उत्सर्गस्य प्राप्तिरेव न भवति, अपि च प्रत्याम्नानाद् बाधो भवति । अयमेव शरकुशन्यायः कथ्यते । शास्त्रतः परम्परातश्च सिद्धानां संस्कृतीनां सर्वथा कालापेक्षा नास्ति । यत्र कालसापेक्षा संस्कृतिः प्रवर्तते तत्र शास्त्रेणैव कालो निर्दिश्यते । किन्तु स कालो न विधेयतया निर्दिश्यते अपित्व-नुपादेयतया । तत्र शास्त्रमेव कालं योजयति । अस्मिन् काले इदमनुष्ठेयमिति ।

'कालश्चालयति प्रायः पण्डितान् पामरानपि ।
तञ्चेच्चिकीर्षसि वशे तितिक्षैव महौषधम् ।।'

कालानुसारेण नास्माभिर्वर्तितव्यम्, परिवर्तनशीलः कालः, तदनुसारेण स्थितिश्चेदस्माकम् वयमपि परिवर्तिता भवेम। एवञ्चेत् भारतीयानां को विशेषः। कालोऽस्माभिर्वशीकर्तव्यः । न हि कालो रज्ज्वा वा भुशुण्डीप्रयोगेण वा असिप्रयोगेण वा वशी भवेत् । तदर्थं तितिक्षैव परमं साधनम् अवलम्बनीयम्। अत एव सन्मार्गगमिनः कुमार्गगामिनां वर्त्म परित्यज्य स्वीये मार्गे एव गच्छन्ति । ते जानन्ति यत्कुमार्गगामिनां वर्त्मनि गमनेन हानिर्भवेदिति । अतः तद्वर्त्म परित्यज्य यत्र गन्तव्यं तं देशं प्राप्नुवन्ति । अनेनेव प्रकारेण उत्सर्गशास्त्राणि अपवादस्थलानि परित्यज्य यत्र यत्र गन्तव्यं तत्र तत्र गच्छन्ति । एवं सत्यपवादशास्त्राणाम् उत्सर्गशास्त्रप्रवृत्तिकालप्रतीक्षाया आवश्यकता कुतस्स्यात्?

संस्कृतीनां परिवर्तनावसर एव तासां कालसापेक्षता, परम्परागतानां तासां यथावत्पालना-वसरे न कालापेक्षा । इदीनां भारते पुरुषेषु शिखाकर्मणि पाश्चात्यसंस्कृतिः प्रायस्समागता,

नारीष्वपि शिखाकर्तनं क्वचित्क्वचिदारब्धम्, वस्त्रपरिधाने च प्राय ऐकरूप्यं दृश्यत एव, जातावप्येकरूपतासमानयनाय शासनमेव यतते, भगवान् पाणिनिः पशूनां तृण-भक्षणसमये, मानवानां गमनावसरे चरधातुं प्रयोगक्तुमभिलषन् 'चरगति भक्षणयोः' इत्युपदिदेश, किन्तु भारते पाश्चात्या इव तिष्ठन्तो गच्छन्तश्च भक्षांश्चरन्ति, अत्राप्यैकरूप्यम्, अर्थकामपुरुषार्थयोः प्राधान्य–मुभयत्रैकरूपतां धत्ते । एवमन्या बहवः पाश्चात्यसंस्कृतयोऽत्र भारते जनतायां सङ्क्रान्ता वर्तन्ते । तासां परिवर्तने पुरातनभारतैकसम्बद्धानां संस्कृतीनामानयने नूनं संस्कृतयः कालसापेक्षा भवेयुः। भारतीयपूर्वपुरुषाणामाचारान्तर्गता एव संस्कृतयः कथ्यन्ते । ताश्च धर्मपदेनापि व्यपदेष्टुं शक्यन्ते । मीमांसानयानुसारेण धर्मपदं द्रव्य–गुण–कर्म–सामान्येषु व्यवह्रियते । तत्राचरणरूपक्रियायां संस्कृतयो निपतन्ति, अतस्ता अपि धर्मपदव्यपदेश्या भवन्ति । अस्मद्देशनायकैः भारतस्य शासनं धर्मनिरपेक्षं स्वीकृतम् । स्थाने नायकानां नामकरणे प्रवृत्तिः। कस्यचन धर्मस्य विशेषेणादरः, अपरस्य च सामान्येनादरः, अन्यस्य च निरादर इति भेदभावनिराकरणपरमिदं धर्मनिरपेक्षपदम् तथापि तस्य तस्य धर्मस्य तैस्तैः यथाशक्ति परिपालनं क्रियते न वेति निरीक्षणं शासकानां धर्मः। अस्यापि धर्मस्य निरपेक्षत्वे पुनरपि भारतं पारतन्त्र्यं अनुभवेदिति भीतेरस्त्यवकाशः । वयं प्रत्यहं वर्णसङ्करानुत्पादयितुं प्रयतामहे । उत्पन्नांश्चतान् मतान्तरीयाः स्वमते निस्संकोचम् प्रतिष्ठा–पयन्ति । अल्पसंख्याका वयं भवेम । देशान्तरेऽल्पसंख्याकानां या स्थितिरस्माकम् । अद्यतनाल्प–संख्याका बहुसंख्याका भवेयुः । बहुसंख्याकानामेव हस्ते शासनसूत्रम् । तदा भारतं स्वतन्त्रम् उत परतन्त्रमिति निश्चेतुं गोष्ठी समायोजनीया स्यात् । यदि पारतन्त्र्यं निर्णीतं स्यात्तदा भारतीया–संस्कृतिरिति काचन संस्कृतिरेव न स्यात् । तदा सा कालनिरपेक्षा वा सापेक्षा वेति विचारस्य कथैव नोदियात्।।

IV

TEMPORALITY IN THE LOGICAL STRUCTURE OF INFERENCE ACCORDING TO NAVYA NYĀYA

SIBAJIBAN BHATTACHARYYA

I : INTRODUCTION

Logic, conceived as a science of structure of valid inference, studies interrelations of sets of sentences constructed (effectively) from a given alphabets according to rules. Although step by step construction of the sentences (wffs) in a language is a process in time, still logic itself is thought to be atemporal like mathematics.[1] Even a logic of time itself is thought to be atemporal.[2] As aganst this universally accepted notion of logic in the Greco-European tradition Navya Nyāya philosophers[3] have developed a theory in which temporality determines the structure of inference. This is primarily because inference is conceived as a process of knowing which endures in time. I shall use 'cognition' instead of 'knowledge' while talking of the Navya Nyāya theory, for 'cognition' is a wider term than 'knowledge'. First, I explain the meaning of the term 'cognition' (*jñāna*).

The Sanskrit *jñāna* though philosophically cognate with the English 'knowledge' through the Greek *gnosis*, is now a days translated as 'cognition'. I shall use this translation with the following remarks:

1. *Jñāna* is used to denote not merely propositional acts like judging, believing, disbelieving, doubting, assuming, inferring, remembering, introspecting, perceiving, but also non-propositional states like sensing, etc. *Jñāna*, is therefore, identical with awareness (of facts, objects, sensory qualities, mental states, etc.).

2. *Jñāna* is used to denote occurrence of an actual state but never in the dispositional sense. The term *saṃskāra* is used for 'disposition' in general, physical as well as mental. In the context of cognition, *saṃskāra* is used to denote unconscious traces which when stirred up or activated, produce conscious memory. We shall use 'act' as an abbreviation of 'actual conscious state', but not in the sense of any activity or action, so that even sensing will be an act in this sense.

In developing a logic of cognition in this sense, Navya Nyāya had to develop a theory of cognition as an act and differentiate it from a cognitive disposition.

This concept of cognitive act plays an important role in Navya Nyāya logic. In this logic Navya Nyāya makes use of a certain concept of a relation between two acts of cognition which because of its novelty is difficult to explain. This is the preventer- prevented (*pratibandhaka-pratibādhya)* relation between two acts of cognition.

> One mental act, under certain conditions, prevents the occurrence of another mental act, although it does not prevent or cancel the existence of a mental disposition.

This *law* holds between only mental acts and not between an act and a disposition, or between two dispositions.

In ontology Navya Nyāya uses a principle whose logical nature is equally unclear but fortunately it is widely used in Greco-European philosophy. This is the principle of simplicity (*lāghava*), called, in Greco-European philosophy, 'the law of parsimony' of 'occam's razor'. The logical nature of this law is as obscure as the principle of the preventer-prevented relation. Yet because this law is known in Greco-European philosophy, I shall not explain it here, although I shall have occasion to study how Navya Nyāya uses this principle. I shall have, of course, to explain in detail the first law and other associated laws which are used widely in Navya Nyāya logic of cognition. As these laws are basic to the system of Navya Nyāya, I shall also call these 'principles'.

II : THE THEORY OF COGNITION

I now explain the Navya Nyāya theory of 'cognition as an actual conscious state'.

A. Three moments of an act

Cognition, i.e., actual conscious states of believing, doubting, supposing, judging, knowing, sensing, etc., have generally three moments or phases:

a. a moment of origination,

b. a moment of duration in which an act produces its own trace, and

c. a moment of cessation as a conscious state.

The first point to be noted here is that two acts cannot *originate* at the same moment. An act originating at *t* will prevent every other act from originating at *t*.

> This is because of the *psychological law* that we cannot perform more than one act at a time.

The acts of cognition are short-lived, they are chased out of consciousness by the succeeding acts. In the waking state there is no felt (introspectively known) gap between two acts. This means that when a preceding act is in its second phase the succeeding act originates and replaces the former; and so on. A chain of thought is

said to be 'broken' when another thought supervenes. In Navya Nyāya terminology, the succeeding act 'destroys', 'kills', the preceding act. This antagonism between preceding and succeeding acts has, however, nothing to do with the nature of what is cognized in these acts. This is a purely causal theory which seeks to explain how and when an act ceases to be an act.

B. Relation between an act and a disposition

This relation is conceived as a causal one, i.e., an act produces a disposition as a cause produces its effect.

There can be no disposition which is not caused by a previous act.

The disposition which is thus caused by an act is a memory trace which will again produce only a memory when it is stirred up or activated. The disposition will not be the direct cause of any type of knowing except memory cognition, and will not, for examples, be the direct cause of any behavior, even of speech behavior. Now, although the relation between an act and a disposition is direct and straightforward, there is a controversy among philosophers of the Navya Nyāya school on the nature of the relation between a disposition and an act. I have already stated that a disposition produces a memory cognition when it is activated. This is again a causal relation, i.e., the disposition is the cause of the memory cognition. The difficulty here is whether the disposition should continue to exist as a disposition even after it has produced the memory act of cognition. According to one section of Navya Nyāya philosophers a disposition after producing the memory act will itself be destroyed. It will no longer remain that disposition although the memory act again will leave behind it a new disposition which will be stronger than the old disposition in the sense that it will not require such excitation to bring about another act of memory cognition. The difficulty of this theory seems to be that it has to postulate innumerable dispositions of almost the same cognitive form. This is what has led other philosophers of the Navya Nyāya school to hold that a disposition is not destroyed even after the production of a memory cognition but is rather strengthened by this production. This is the *law of practice* which can be stated as follows:

A disposition gets strengthened by being activated frequently.

This seems to agree with the commonsense view that in order to strengthen a memory trace we have to activate it a number of times.

Now we pass on to a discussion of relations between two acts.

C. Relation between acts

These relations have been conceived in different ways which can be classified broadly into two types. (i) Psychological relations and (ii) non-psychological relations; but both these types of relations are *causal relations.* We shall call those relations psychological which obtain between two acts of cognition simply as

occurrences, or as *episodes*, but not as cognitions of objects. Whatever object be cognized in the acts will be immaterial so far as this type of relation is concerned.

(i) Psychological Relations:

We have already explained two types of psychological relations between two acts. The first is the relation between two acts so far as their moment of origination is concerned. We have seen that according to Navya Nyāya two acts of cognition cannot originate at the same time and we have already explained it as the psychological law of limits of attention. It is usually held that we cannot perform more than one act at a time.

The argument by which Navya Nyaya philosophers prove this theory is a *reductio*, based on the following three fundamental *laws* of cognition:

1. Every cognition is directed only to its object; no cognition is aware of itself.

2. A cognition may be cognized in introspection which is a second order cognition having the primary cognition as its object.

3. A cognition is a cause of voluntary action of the person.

Reductio argument:

> Suppose two cognition of different objects originate at the same time. Then they would be known in two different introspective cognitions. The problem, then, is: on what cognition would the person act if the two cognitions be of equally pleasant objects having different positions. The person would not be able to decide how to act, what object to attain. He cannot act in two different ways, say, move in two different directions, to reach two different objects. Thus there would be total suspension of activity, most of the time, if not always. The situation would become more intolerable if more than two cognitions originate at the same time. Hence, in order to explain how voluntary action is possible, it is necessary to assume that only one cognitive act can originate in one moment.

The second relation which is of the same nature has also been explained. This is the relation of the killer and the killed between two successive acts. This is also a psychological relation in the sense that this relation is not dependent upon the objects which may get known in these acts. This is a relation between two successive acts again as occurrences or episodes, i.e., merely as acts of consciousness. A disposition according to this theory is a more permanent feature of the self, whereas an act is momentary so far as its duration is concerned. Now the problem is: why should an act not endure for more than one moment, or why should an act

cease to be an act? The Navya Nyāya answer is that an act continues to be an act so long as it is not destroyed as an act by its successor. It does not matter whether the successor act has the same thing as its object as the preceding act or not. That is, reference to the objects of the cognitions is immaterial here. One should note here, however, that it is necessary to conceive the preceding act (which gets killed) to *meet* its killer. The succeeding act must meet the preceding act if only for a moment; that is why it is necessary to assume that the succeeding act must *originate* while the preceding act *endures*. If the preceding act were already over, then it would have been over for no reason at all. It must be pushed out of consciousness, must be killed as an act by its successor. So this is also a *psychological law*.

(ii) Non-psychological or epistemic relations:

The epistemic laws have been conceived in different ways to describe different types of relations between two acts of cognition. These laws are epistemic in the sense that they hold for acts of consciousness only as referring to their objects; i.e., reference to objects of these acts is essential for this type of relations to obtain between them. I shall give here examples of three different types of such relations.

Example (a) :
The first example is of a very general nature. Navya Nyāya determines the strength of the conditions of different forms of cognition. In every moment of the waking state, conditions for the perception of sor thing or the other are present. The problem here is, then: how is it ever possible for us to be not constantly perceiving objects, but to have inference, or to understand what we hear? Suppose I am now sitting on a chair; conditions for perceiving all objects in front of me are present. How then can I infer, as I do now, that it is going to rain very soon?

Navya Nyāya distinguishes here between two types of cases: (1) when there is no special desire for having a special type of cognition; and (2) when such a desire is present.

Case (1): According to Navya Nyāya this is possible only if the conditions of making this inference *predominates* over the conditions of perception. Now, in determining the *relative strength* of the conditions of perception, inference, understanding the meaning of sentences heard, Navya Nyāya refers to objects of cognition. If the objects of cognition is the same, then the conditions of perception prevail over conditions of inference, verbal knowledge, etc. This presupposes that what we perceive can be justified by inference, or corroborated by what others say; i.e., what is perceived may be the same as what is inferred or known from others. If, however, the objects are not the same, then the conditions of inference prevail over the conditions of perception. Thus if conditions for perceiving that it is raining are present, we shall have perceptual knowledge, and not inferential knowledge. But if conditions for perceiving a table (viz. that the table is brown) are present, and also the conditions for inferring that it is raining are present, then because the objects

of perception and inference are different, we shall have the inference. It is nowhere explained what the term 'different propositions' in this context means. But all actually given examples are of logically independent propositions.

Case (2): However, in every case of cognition, the desire to cognize in a certain way, rather than in any other way, will produce the desired type of cognition; i.e., desire to cognize in a certain way has *overriding* influence on the mode of cognition.

Example (b) :
A second type of examples of a non-psychological relation can be explained thus. There are certain propositions such that the conditions which produce the cognition of the one produce the cognition of the other. **Nyāya Koṣa** states that in such a case the two propositions are the objects of *one and the same* cognition. All example given to illustrate this type of relation are of logically equivalent converses of relational propositions.

Example (c) :
A third type of examples which I now give of an epistemic relation obtaining between two acts of cognition is very important. It is the relation of one act preventing the occurrence of another act. Navya Nyāya, of course, distinguishes here between the psychological relation between two acts which also prevents the occurrence of one act when the other is present. So I shall have to distinguish here between two altogether different types of preventer-prevented relations between two acts of cognition. The psychological relation does not depend upon the objects of cognition but holds between two cognitions as occurrence. As an example of such a relation given in Navya Nyāya, we may cite the case of a man who is very much interested in or inquisitive about women. This inquisitiveness about women will prevent him from having a cognition of any different object. Now the presence of this inquisitiveness prevents the occurrence of all other cognitive acts by a psychological law. It has nothing to do with the objects which are known in such acts. But the most important type of preventer-prevented relations which obtain between two cognitive acts is by virtue of their objects and, therefore, this relations is not psychological.

Now I shall explain the concept of a preventer in general. It is a *causal* concept. A preventer is really something very similar to what Mill calls 'a negative condition', the *presence* of which will prevent the occurrence of an effect. Thus if the fuel is very wet, then the presence, of this wetness, prevents the emergence of fire and therefore the wetness of the fuel is a negative condition, i.e., a preventer, of fires. So also in the case of cognitive acts. Every cognitive act is an effect of certain factors. It is produced by a number of causal factors some of which are positive and some negative. Any factor, *the absence of which is necessary* for the production of an effect, become a preventer of the effect by being present. Navya Nyāya discusses this type of relations between cognitions only in the case of contradictory or contrary propositions.

I now come to a fundamental difference between a disposition and an act. So long as a conscious act of believing that *p* remains a conscious act, it will prevent a person from consciously believing that *not-p*; but if the belief is a mere disposition and is not recalled, then the same person can believe that *p* and also that *not-p*, and one of the beliefs can become also actualized at one time. A person can believe that *not-p* consciously only so long as he does not realize that he also believes that *p*; i.e., a person can not, consciously, *knowingly*, hold self-contradictory beliefs; but unknowingly, without realizing that he does so, a person can hold beliefs (as unconscious disposition) which may not be consistent.

Conditions of the preventer cognition (*pratibandhaka jñāna*):

i. The cognition must be attended with belief, for example, it must not be a supposition or a doubt.

ii. It may be either true or false; in either case it must not be cognized in a higher order act, truly or falsely, to be false.

iii. It must be about the proposition which is contradictory or contrary to the proposition cognized by the prevented cognition.

Conditions of the prevented cognition (*pratibadhya jñāna*):

iv. The cognition can be either true or false.

v. It may or may not be attended with belief.

vi. It must not be a supposition.

vii. It must not be an ordinary perception, or an illusory perception due to any psycho- physical defect.

viii. The cognition must be propositional.

Let us explain these conditions. We first note that we are dealing with cognitions of contradictory or contrary propositions only. A mere supposition of a proposition can neither prevent nor be prevented by a cognition of the contradictory proposition. If we suppose that *S* is *P*, then this supposition, when it endures as an actual conscious state, cannot prevent us from cognizing or even knowing that *S* is not *P*. So also even if we know that *S* is *P*, this knowledge will not be able to prevent us from supposing that *S* is not *P*; only in this case the supposition will be contrary to fact. Then an illusory perception cannot be prevented from occurring by any cognition of the contradictory proposition. Thus if we are suffering from jaundice, then even though we know actively that the wall is not yellow yet we shall see that the wall is yellow; only in this case the illusory perception will not be attended with

belief. Thirdly, the preventer cognition can be either true or false; it is not always the case that only a true cognition can prevent the occurrence of a false cognition, for even a false cognition held with firm conviction can prevent one from cognizing the truth. But whether our cognition is true or false, we must not cognize it in a higher order act to be false if it is to prevent the cognition of the truth. For if we know that our cognition is false, then we shall withhold our belief from it, and this cognition without belief will not be able to act as the preventer cognition. The cognition which is prevented may, however, be a doubt, i.e., cognition not attended with belief; if we cognize with belief that *S* is *P*, then we cannot even doubt that *S* is not *P*.

The point to be noted here is that so long as the preventer cognition *endures*, the prevented cognition cannot *originate*. This is not true in other cases. For example, when we have introspective cognition that we are cognizing a table, the introspective cognition has to originate when the object cognition endures. Otherwise the introspective cognition cannot be a form of perception (inner perception), there cannot be any perception of an absent object. This Nyāya theory may be symbolically represented in the following way.

In order to be able to talk about different acts of cognition we shall use numerical subscripts thus:

Cognition$_1$ (abbreviated cog$_1$), cog$_2$, cog$_3$......cog$_n$...., is a chain.
The three moments of an act of cognition will be symbolically represented thus:

The moment of origination = M^O
The moment of duration = M^D
The moment of cessation = M^C

Then 'the moment of origination of cog$_1$' will be written as 'M^O_1'; 'the moment of origination of cog$_2$' as 'M^O_2'; 'the moment of duration of cog$_3$' as 'M^D_3'; and so on.

The first point we have made is that no two acts of cognition can originate at the same time. This can be stated thus:

$$(i)\ (j)\ [i{=}j \cong M^O_i = M^O_j\,]$$

or simply as

$$(i)\ (j)\ [i{=}j \equiv M^O_i = M^O_j\,] \qquad \text{(A)}$$

Our second point may be stated as follows:

Let cog$_1$ be the cognition that *p*,
cog$_2$ be the cognition that 'I cognize that *p*',
cog$_3$ be the cognition that '*not-p*',

Then, although (A) prevents $M^O_1 = M^O_2$ till it is necessary that

$$M^D_1 = M^O_2 \qquad \text{(B)}$$

The third point is to the effect that even

$$M^D_1 = M^O_3 \qquad \text{(C)}$$

is not possible, if cog$_1$ and cog$_3$ satisfy the conditions (i) - (viii).

III : TEMPORAL STRUCTURE OF INFERENCE

I now explain in what sense temporality enters into the structure of inference. Inference, according to Navya Nyāya, is either for the sake of oneself or expressed for the sake of others. I shall be concerned here with an inference as a process by which the person performing the act possesses knowledge. This process has the following stages:

> First, one has to know an invariable relation of concomitance between the *hetu* and the *sādhya*. This knowledge, however, remains as a memory. Then one perceives or otherwise cognizes actively the presence of the *hetu* in the *pakṣa*. This perception of the *hetu* recalls the memory of the invariable concomitance. Then there is a more complex form of cognition and then one knows the conclusion.

I shall explain the essential part of temporality in this process with the help of the stock example.

Moment 1 : Perception of smoke on the hill (*hetu*), - ((The) hill (is) smoke-possessing).

Moment 2 : Recollection of smoke-fire relation, caused by the perception (*vyāpti*)- (smoke(is) pervaded by fire).

For causal relation it is necessary that the cause exist at the immediately previous moment of the origination of th effect. At moment 2, when the recollection originates, the perception originating at moment 1 endures. We have $M^{o}_{2} = M^{D}_{1}$.

Moment 3 : Origination of the cognition of combination of perception and recollection (*parāmarśa*) - ((The)hill (is) (smoke-pervaded-by-fire) - possessing).

This doubly qualificative cognition originates at moment 3, being caused by both the perception and the recollection, both of which are available at moment 2, i.e., the moment immediately preceding the origination of this *parāmarśa* which is the effect of both.

Moment 4 : Cognition of the conclusion originates (*anumiti*) - ((The) hill (is) fire-possessing).

At moment 4 only the *parāmarśa* originating at moment 3 endures; neither the perception of the *hetu* which originated at moment 1, nor the recollection of pervasion which originated at moment 2, endures at moment 4, when the cognition of the conclusion originates. At moment 3, only the recollection of the pervasion endures and is, therefore, a cause of the cognition of the conclusion. The immediate cause is, of course, the *parāmarśa* which originates at moment 3. But, then, the question arises: How, then, can the perception of the *hetu* in the *pakṣa* which originates at moment 1, and hence cannot endure at moment 3, be a cause of the cognition of the conclusion originating at moment 4? The answer is that in *parāmarśa* which originates at moment 3, the perception is built in, and in that form - as a factor in the object of the doubly qualificative cognition (*parāmarśa*) it is available at

moment 3, which is the immediately preceding moment of the origination of the cognition of the conclusion at moment 4.

The situation becomes more complex when it is realized that another causal factor is necessary for this types of inferential process, namely, *pakṣatā*. I quote extensively from Ramanuja Tātāchārya's **Pakṣatā.**[3]

IV : CAUSAL ACCOUNT OF INFERENCE

If one perceives fire in the hill, there would not arise in this case the inferential cognition 'The hill has fire'. Hence in an instance like this the hill would not be a proper subject or *pakṣa* of an inferential cognition of the form 'The hill has fire'. In other words there is no *pakṣatā* and as such there would be no inference.

If, however, a person desires to infer fire in the hill in spite of his perceiving it there and thus having certainty about it, then the process of inference is noticed in this case provided that he sees smoke there and remembers the invariable relation between smoke and fire. And in this case there would be *pakṣatā*, that is, the hill becomes a proper subject for the inferential argument.

Some logicians hold the view that the desire ot infer (*sisādhyiṣā*) constitutes *pakṣatā*. Hence there may be inference on the strength of the desire to infer in spite of one having certainty about *sadhya*. This view does not hold good in view of the fact that one involuntarily infers the existence of clouds from the roar of thunder. This case shows that there is the rise of the inferential cognition even when there is no desire to infer. As such desire to infer cannot constitute *pakṣatā*.

Yet another group of logicians maintain the view that doubt regarding the existence of *sādhya* (*sādhya-sandeha*) constitutes *pakṣatā*. Gangeśa rejects this view on the following grounds: it may be said that *sādhya-sandeha*, which is *pakṣatā*, is the cause of the inferential cognition by being present in the moment immediately preceding the rise of the inferential cognition, or by being present at some point of time prior to the rise of the inferential cognition. To either of the views there are difficulties. In an instance where we have:

Moment 1 : Doubt about *sādhya*.
Moment 2 : Perception of *hetu*.
Moment 3 : Recollection of *vyāpti*.
Moment 4 : *Parāmarśa*.
Moment 5 : *Anumiti*.

doubt will be lost in the moment prior to the movement of *parāmarśa*. The point that is of importance here is that doubt regarding *sādhya* does not exist in the moment immediately preceding the rise of inferential cognition and so the former cannot be viewed as the cause of inferential cognition. In other words, doubt regarding the *sādhya* cannot be viewed as *pakṣatā*.

To get over this difficulty if it is held that doubt regarding *sādhya* is the cause of inferential cognition by being present at some point of time prior to the rise of inferential cognition then there is the possibility of the rise of inferential cognition even when there exists certainty about *sādhya*. It must be noted that doubt about *sādhya* existed in the present case at some point of time. The result of this argument is that there is the rise of the inferential cognition even when there is the certainty about *sādhya*. But the purpose of admitting *pakṣatā* is to ward off the rise of inferential cognition when there is certainty about *sādhya*. And this purpose would not be served if we admit that doubt regarding *sādhya* is the cause of inferential cognition by being present at some point of time prior to the rise of inferential cognition. Hence the definition of *pakṣatā* as *sādhya-sandeha* is not correct.

It may be said that then in that case absence of *siddhi* alone may be viewed as constituting *pakṣatā* as there arises inferential cognition then. This too is wrong because at the time of *siddhi* when there exists the desire to infer, there definitely arises the inferential cognition. Since in the absence of *siddhyabhāva* there arises the inferential cognition, *siddhyabhāva* or absence of *siddhi* cannot be viewed as constituting *pakṣatā*. The logical difficulties in the definitions set forth above have led Gangeśa to formulate his definition which is as follows:

Sisādhayiṣā virahaviśiṣṭasiddhyabhāvaḥ pakṣatā

This definition may be explained as follows: a person actually perceives fire in the hill. He has thus certainty about the existence of the *sādhya*. In other words, there is *siddhi*. Normally this would prevent him from inferring the fire. But if he has the desire to infer (*sisādhayiśā*), then *siddhi* which thwarted the rise of the process of inference is checked by the desire to infer thus allowing inference to take place. The *desire to infer* is known as *uttejaka*.

An objection suggests itself at this stage. In an instance where desire to infer (moment 1), certainty about *sādhya* (moment 2), subsumptive reflection (moment 3) and, inferential cognition (moment 4), arise successively, therein the desire to infer is lost at the time of subsumptive reflection and as such there is certainty about *sādhya* associated with the absence of desire to infer. The absence of certainty about *sādhya* associated with the absence of desire to infer, which is proved to be *pakṣatā*, does not exist. And in its absence inferential cognition has arisen. So *pakṣatā* of this nature cannot be considered to be the cause of inferential cognition. Yajñapatyupādhyāya overcomes the above difficulty by admitting the rise of another desire to infer either during the moment prior to subsumptive reflection or subsequent to it. This may be explained thus:

Either

Moment 1 : Desire to infer.
Moment 2 : Certainty about *sādhya*.
Moment 3 : A second desire to infer.

Moment 4 : *Parāmarśa*.
Moment 5 : Inferential - cognition.
Or, moment 3 and moment 4 may be interchanged.

Sarvabhauma, however, overcomes the difficulty pointed out earlier by admitting that *siddhi* or certainty about *sādhya* must be associated with another adjectival feature, namely,

sisādhayiṣāvirahaviśiṣṭavakṣanāvyava hitottarakṣanotpattikānumitika bhinna besides *sisādhayiśāvirahaviśiṣṭa*.

This means *pakṣatā* is absence of certainty (i) which is associated with the absence of desire to infer and, (ii) which is different from the one that has inferential cognition that arises at the moment immediately subsequent to the moment which is associated with the absence of desire to infer. In the case cited above, certainty is associated with the absence of desire to infer (without the origination of a second desire as postulated by Yajñapati).

But it is not different from the one that has inferential cognition which arises at the moment immediately subsequent to the moment that is associated with the absence of desire to infer. It is thus: *sisādhayiśā*, *siddhi*, *parāmarśa* and *anumiti* have arisen successively in the present case. The moment which is associated with the absence of desire to infer is the moment during which *parāmarśa* has arisen. Here *siddhi* is associated with the absence of desire to infer. This is the substantive part. But *siddhi* is not associated with the adjectival part, namely, difference from the one that has inferential cognition that arises at the moment immediately subsequent to the moment that is associated with the absence of desire to infer. It is because inferential cognition actually arises in the moment subsequent to the moment of the rise of *parāmarśa* associated with the absence of desire to infer. It is this absence of the adjectival part that accounts for the absence of the complex entity which is *pakṣatā*.

The above definition involves the defect of prolixity. Further it involves the defect of interdependence too. It is thus: in the body of the definition of *pakṣatā*, 'origination of inferential cognition' is involved. And it requires to be explained on the basis of the presence of *pakṣatā*. And the latter could be explained only in relation to the origination of inferential cognition. So the definition of *pakṣatā* as amended by Sarvabhauma does not hold good.

Misra argues that in the instance where *sisādhayiṣā*, *siddhi*, *parāmarśa* and *anumiti* arises successively, it is true that the moment prior to the rise of *anumiti* is characterized by *sisādhayiṣāvirahaviśiṣṭa - siddhi* and as such it may be argued that there is no *pakṣatā* of the form *sisādhayiṣāvirahaviśiṣṭasidhyabhāva*. But the word *sisādhayiṣā* stands for *sisādhayiṣāyogyatā*. The latter is defined as the period of time between the rise of *sisādhayiṣā* and that of *parāmarśa*, i.e., moment 2. Hence

at the time of *parāmarśa*, *siddhi* exists, *sisādhayiṣā* is lost, but *sisādhayiṣāvirahaviśiṣṭa* is present.

Moment 1 : Desire to infer.(*sisādhayiṣā*.)
Moment 2 : Certainty about *sadhya* (*siddhi*.)
Moment 3 : *Parāmarśa*.
Moment 4 : *Anumiti*.

And as such we have *sisādhayiṣāyogyatāvirahaviśiṣṭasidhyabhāva* which is *pakṣatā*. This definition, too, is not to be favored as it involves the defect of prolixity. Yajñapatyupādhyāya has set forth another definition of *pakṣatā*. He argues that in regard to the rise of inferential cognition the following factors are necessary:

a. Absence of certainty associated with the absence of desire to infer; and

b. The absence of the causal aggregates leading to perceptual cognition and verbal cognition in regard to the object of inferential cognition.

If the causal aggregate leading to the perceptual cognition or verbal cognition of fire in the hill is present then inferential cognition will not arise. Hence the absence of the causal aggregate leading to the perceptual cognition and verbal cognition must be viewed as the cause of inferential cognition. Hence the definition of *pakṣatā* would be:

Sisādhyayiṣāvirahaviśiṣṭasya siddhyanumānatirikta sādhakamanayoranyatarasyabhāvaḥ pakṣatā.

This definition should not be favored on the following ground: the causal aggregate leading to perceptual cognition or verbal cognition is the factor that quite independently constitute the *pratibandhaka* in regard to the rise of inferential cognition and its *abhāva* is an independent cause. There is no valid reason to hold that the absence of the causal aggregate of perceptual and verbal cognition is the cause of inferential cognition as *pakṣatā*.

This shows the difficulties which Navya Nyāya philosophers faced in giving a causal, hence temporal, account of the inferential process and the different solutions they offered.

NOTES

1. "…. the logic of Aristotle was conceived as a theory of special relations, like a mathematical theory". Jan Lukasiewicz, *Aristotle's Syllogistic*, second ed. Oxford: Clarendon Press, 1957, p.15.
2. See, for example, J.F.A.K. Van Bentham, *The Logic of Time*, D. Reidel Publishing Company, Holland: 1983.
3. *Pakṣatā*, ed. with commentaries *Didhiti*, *Diddhitiprakāśikā*, and *Bhāvabodhini*. Edited by N.S. Ramanuja Tātāchārya, Tirupati, 1988, pp.1-10.

V

TEMPORALITY, CAUSALITY, TRUTH AND THEORETICAL ENTERPRISE

UMA BANDYOPADHYAY

I : INTRODUCTION

The theoretical discipline which is most concerned with time is history and it is said to be a weak point of India's intellectual culture.[1] Philosophy or science is not perhaps in that sense so much concerned with time. Thus understandably in the West truths of history are not given the status which is given to the truths of philosophy or science. As though being in time and being about temporality make different concepts of truth. In Indian tradition the issue is not so clear. Never the less scientists and philosophers of the two civilizations accept time as something real. Similarly there are philosophers in both traditions who do not admit reality of time.[2] In view of this somewhat complex situation I would try to shed some light on the relation between temporality and theoretical enterprise, particularly philosophy. I shall confine myself to the Indian context by and large. But first I should clarify what significant relations can be there between theoretical enterprise and temporality. To relate temporality and theoretical enterprise in a significant way we should first know the distinctive feature of a theoretical enterprise.

We usually distinguish between practical endeavor and theoretical enterprise. Our practical concern is the concern for how to do; say, how to paint a picture or how to build a house. The discipline which answers such concern, is the art and technology of the matter. Practical discipline or art equips us with skill. Learning an art is knowing how certain work is to be done. But there is another type of knowing which is called *knowing that*. Theoretical enterprise aims at this type of knowing. We may call it theoretical understanding.

Theoretical understanding consists in knowledge or true belief. Practical understanding consists in skilled operation. So when we consider the relation between temporality and theoretical discipline we should keep this distinctive nature of theoretical endeavor in mind.

Now suppose, one keeps this feature of theoretical endeavor in mind and wants to relate temporality and theoretical enterprise, one may find various conceivable relations. Among these, certain relations between the two are very obvious. For

example, theoretical enterprise is an act or process which is in time. But its being in time does not seem to affect the value of the product or the knowledge which results. If, however, time somehow affects the cognitive value of the resulting knowledge, then it certainly becomes a concern of the theoretician. For, the aim of a theoretician or of a theoretical enterprise is stable knowledge and unchanging truth. Here a concern shows up that if knowledge or truth keeps on changing, then that cannot be real knowledge or genuine truth. Knowledge must have substrate which is above the ravages of time. But is this concern for the knowledge a concern for the formal and the linguistic knowledge', or it is a concern for the transcendental and the abstract knowledge. Is this concern differently placed for different categorical types of knowledge? I think, however, that a concern for the formal has never been a dominant and characteristic trend among the Indian philosophers. We hardly have evidence to think that the Indian philosophers admitted any distinction between formal truth and empirical truth. Atemporality of formal truth was hardly a issue before Indian philosophers unlike Greco-European philosophers. However, we find in the Indian tradition a strong awareness of the problem of temporality in her concern for the transcendental knowledge.

It may be found that striving for the formal or the transcendental is really a striving for the atemporal *object* of knowledge and not for atemporal *knowledge* as such. Thus Plato would not consider a belief to be knowledge if its object is not something immutable and unchanging, that is, an atemporal Form. Though an Advaita Vedāntin will think that a *paramārthika tattva vedaka pramāṇa*, that is, cognition which cognizes the transcendental reality, is itself temporal. But it is at the same time *Bramhakarantahkāraṇavṛtti* - a state or modification of *antaḥkaraṇa* relating to *Brahman*. Thus the true object, so to say, is atemporal *Brahman*.[3] Here we may note that except for the Advaitin-s and some Bauddha-s[4], the Indian theoreticians do not generally distinguish between philosophical and, say, scientific truth in respect of their cognitive value. Otherwise, by and large, conception of theoretical enterprise in the Indian tradition accepts object of knowledge as fundamentally non differentiable in terms of their cognitive value.

What I therefore propose to do in this paper is to interpret certain doctrines or assertions in Indian philosophy where we may hope to discover Indian conception of the relation between temporality and theoretical enterprise. And finally, I shall argue that in India, theoretical enterprise generally involved the use of causal model. This means the objects of theoretical inquiry were basically things in causal relations and thus in time. Further, logical relations were subordinate to overarching causal relations in the conceiving of theoretical enterprise. But this fact does not make knowledge lose its cognitive value and definitiveness. Lastly, I would show that some other important philosophical principles are affected by temporality in the sense that they become operative only in the *bhāvakāla* or within the limits of *sṛṣṭi* (creation), which is a realm of causality.

II : TEMPORAL OR ATEMPORAL OBJECTS OF THEORY

Now before we proceed further a few remarks must be made about the notion and expression 'knowledge'. The English word 'knowledge' usually means 'true belief'. It means something much more also. In India Prabhākara Mīmāṃsaka-s take the word *jñāna* to mean true belief (which is other then memory), that is, *yathārtha anubhava*. Thus their use of the word *jñāna* come very close to the standard use of the English expression 'knowledge'.[5] Indian philosophers admit a variety of *jñāna* which can be called *yathārtha*. I shall take this type of *jñāna* or 'knowledge' to be the aim of *Darśana* and of *Śāstra* such as *Gaṇita* or *Āyurveda* as they are conceived in India.

Belief again is taken in two different senses. It is taken sometimes as an episode or a real or an occurrent state of mind. Or it is taken just as a disposition. I can say I know the poems of the book which earned the Nobel Prize for Rabindra Nath Tagore, though I am not reading the poems now, nor reciting them from memory. Here the term 'know' stands for disposition though my saying so is episodic. As an episode knowledge has one type of connection with time - that it is *in* time. But as we remarked earlier this is not a very important relation or important way of relating theoretical enterprise with temporality. But there is another kind of relation. Knowledge as an episode may be *about* time. In this sense time is taken as an object of belief and some theoretical enterprise may seek to find out important truths about time. We find that both in the Greco-European tradition and in India there are philosophical systems which admit time as a real entity. More then that, these systems include theories of time which are different and sometimes even conflicting. Thus the conception of time as we find in Zeno is different from what we find in Bergson. Some thinkers in both traditions even hold that the concept of time is theoretically unintelligible. Among the Indian philosophers the Vaiśeṣika-s (and the Naiyāyika-s) accept time as an independent, eternal and infinite substance. They have also their own view as to how time is known. It is a part of their theory of time, that time does not figure as an object in perceptual knowledge. Thus no perceptual truth can be *about* time. But there are other Indian philosophers who think that we can perceive time. But I do not think this relation of the being of time and knowing *about* time can relate in a very significant way temporality with theory. The important relation between temporality and theory is not that the theory is *in* time or that the theory is *about* time. What is then the important relation?

Every theory may not be a theory *about* or *of* time. Object of a theory may be something other then time. But this object may be either in time or atemporal. A theoretical enterprise which aims at theoretical understanding may aim at knowledge - which is not knowledge *about* time but knowledge about something which is temporal. If we can show that a theory about temporal object is significantly different from theory about atemporal object, then we can show that temporality does something to a theory. Then we can say that the relation of temporality and theory becomes important. But in which sense is there a difference between a

theory about temporal things and a theory about atemporal things? The answer may be that the nature of the truth in case of a theory about temporal object will be different from the truth which a theory about atemporal things give. Accordingly their relation with different types of object would shape the conception of theoretical enterprise differently. Some theories thus may be primarily empirical, some may be *a priori* as has been claimed quite often in the Greco-European tradition.

III : NATURE OF TRUTH ABOUT TEMPORAL OR ATEMPORAL OBJECTS

Theoretical enterprise and temporality can be shown to be significantly related if temporality is found to be involved in the very structure of a theory. It does so if temporality affects the nature or status of the knowledge or truth which make up a theory. In the Greco-European tradition truths are distinguished in different ways. Some truths are not derived from sense experience. They are *a priori.* Those truths are such that they cannot be falsified. These are necessary or analytic. Philosophers in the Greco-European tradition are divided in their opinion about whether every *a priori* knowledge is also analytic. But knowledge of things in time are generally believed to be *a posteriori* or empirical. But if there can be *a priori* knowledge of things in time, then temporality may not affect the status of truth. Although in this view if some knowledge is there, which is not necessary, then that must be about temporal things. Theoretical studies about temporal objects can give us thus empirical or factual truth. Temporality is a mode of existence in time and can be known contingently. And systems of knowledge about temporal objects include natural sciences and social sciences; examples are, Physics, Chemistry, Economics, Sociology etc. On the other hand theoreticians like mathematicians or formal logicians consider atemporal objects and seek to discover absolute truths issuing out of them. These truths are formal and not empirical. The theoreticians in the Greco-European tradition had been for a long time obsessed with the idea of absolute truth. They thought these truths are a distinct type of truth and these are better variety of truths or higher order truths. We can have this type of truth only if the objects are abstract, atemporal and so on. Formal sciences or formal truths are concerned with abstract things or abstract forms, the content of which may be empirical and temporal. Logic deals with forms of sentence, the empirical meaning or content of which is independent of logic as such. Thus in the Greco-European tradition theoretical enterprise is conceivable whose objects are atemporal and moreover, such a conception of theoretical enterprise is given the status of apex in the domain of theorization.

Is there any evidence to show that the Indian theoreticians distinguished truths about temporal and atemporal things? Did they think that truths about atemporal objects were truths of a higher order. This is not the same question whether truths about transcendental objects are of higher order. For all atemporal things are not transcendental things. Or perhaps transcendental object is categorically distinct

from temporal and atemporal objects. I shall therefore discuss separately and briefly evidences in Indian Philosophy which relate to truths about temporal things and atemporal things on the one hand and truths about transcendental things on the other hand.

IV : TATTVA NIRṆAYA AND RELATION OF TEMPORALITY WITH KNOWLEDGE

I shall refer to one doctrine attributed sometimes to the Mīmāṃsaka-s. This can be taken as an evidence that the Indian philosophers did not think that knowledge about temporal things is different from the knowledge about atemporal things. The doctrine has been enunciated in the saying.

(E.1) *Na sosti pratyayaloke yatra kāla na bhāsata*

This statement means that no knowledge is there in which time does not figure as an object. This is a very strong thesis. It is not only said that object of every knowledge is temporal. Even if an object is temporal we may know it without this aspect of it. Thus to know a temporal thing is not necessarily to know the time in which it is. In the knowledge of temporal object time may not figure as an object. But the doctrine of the Mīmāṃsaka-s we are discussing says that - in every knowledge time is an object. The idea is that when we have knowledge, we know an object and we know time as an adjunc. of that object. This doctrine is also accepted by the Aupaniṣada-s.[6] (E.1) is not an unrelated tenet of the Mīmāṃsaka-s. This doctrine is a necessary part of their theory of *pramāṇa*. They refer to this doctrine to defend their definition of *pramāṇa*. According to many, memory is not *pramā*. The definition of *pramāṇa* should be so formulated that memory can be excluded. Memory has no novel information to give. But then continued perception or *dhārāvāhika pratyakṣa* is admitted as *pramā*. How can we admit that such perception has novelty after the first moment? The answer is this : throughout its duration a continued perception has the same object. But in one respect it is not same. The object is in time and the time is changing. If changing time is the feature of the object then object is also changing in every moment. For, the object has different moments as adjunct. So it is different in different moments. But if time is to make the object different for knowledge then (in every moment) time should be received along with the object of continued perception. Thus the continued perception itself is also different and novel.

The point of interest for us is this. Some Indian thinkers belonging to orthodox schools - some Mīmāṃsaka-s and Aupaniṣada-s - contend that every knowledge knows time at least as an adjunct of its principal object. So they do not show any great concern for absolute, atemporal truth of objects which are beyond time. The philosophers who criticize and reject this doctrine (E.1) do not reject it because then there will be no difference between *a priori* or necessary knowledge and empirical or contingent knowledge. So the attitude of the proponent and opponent of (E.1)

can be used as an evidence to show that Indian theoreticians are not bothered about the temporality or atemporality of the objects of the truths embodied in theory. In Indian tradition we do not distinguish theories into formal and empirical or truths into absolute and contingent. To the Greco-European theoreticians an important way in which temporality and theoretical disciplines can be related is that - temporality or atemporality of object affects the status of the truths of a theory. But this is not so important from the Indian point of view. We therefore conclude that *the Indian theoreticians do not deny time, or abstract from the temporality of objects, in order to secure absolute character of truth.* They do not distinguish between empirical and formal truth. From this I do not want to say anything about whether they distinguished at all - necessary truth from contingent truth. But it may perhaps be said - formal truths and formal theories are not to be found in Indian tradition. In Indian tradition there are so many systems of logic, including the logic of the Naiyāyika-s, but none of them can be called formal logic. Indian conception of theoretical inquiry in this sense is prima facie different from Greco-European notion. In the Greco-European tradition also all the theories are not formal. But there are formal theories. The truths of formal theories are absolute truth. And absolute truth is the highest goal of theoretical enterprise. What is the highest theoretical goal according to the Indians? The goal is *tattvanirṇaya.* But there is no such rule that a *nirṇaya* cannot be truth about some empirical fact or temporal object.

V : ABĀDHI A OBJECT AND TEMPORALITY

There is evidence that in the Indian tradition distinction was drawn between transcendental truth and phenomenal truth. In the Advaita Vedānta system, different realms and kinds of things are admitted. There is on the one hand genuinely or ultimately real, i.e., *Brahman.* On the other hand there are phenomenally or provisionally real; these are objects of common veridical experience. There are correspondingly two types of truth; *paramārthika* and *vyavahārika.* It has been said - *Pramāṇyaṃ dvividhaṃ - vyavahārika tattvavedakatvaṃ paramārthika tattvavedakatavenca iti.* This distinction is based on the nature of an object.[7] But by nature it is not meant in the first inastance temporality or atemporality. It is, however, believed that the object of phenomenal truth is in time. The object of the transcendental truth is trans-temporal; it is *Brahman.* The Advaitin-s noted a doctrine (E.2) according to which, 'some aspect of *Brahman* is known in every knowledge'. The doctrine (E.1) contended that time figures as part of the object in every knowledge. But the doctrine (E.2) says *Brahman* (the *sat* 'part' of it) figures as part of the object in every knowledge.[8] This however, does not make every knowledge an absolute truth. It is an evidence to show that the transcendental also can be partially known in empirical and phenomenal experience. Neither the temporal nor the transcendental character of its object makes any essential difference in the kind of knowledge which is produced. According to the upholders of (E.1) all knowledge knows time or knows temporality as a feature of whatever it knows. According to the supporters of (E.2) even phenomenal truths about

phenomenal objects are partially about transcendental. Yet the Advaitin-s believe that there is a transcendental truth *viz.* the truth of the *Mahāvākya*. And this sort of truth has something transcendental as object. Object of every other truth changes and finally gets canceled or *bādhita*. There are two types of object of knowledge: (1) which is never canceled (*abādhita*), and (2) which is canceled (*bādhita*). The *abādhita* is also free from any one of the six types of change or modification referred to as *ṣaḍ vikāra*.[9] Each one of these modifications is appropriate for things in time. In the Indian tradition so far we find in the Advaita Vedānta system some evidence of distinction between temporal or *vyavahārika* reality and trans-temporal or *paramārthika* reality. Ordinary affairs of men, commonsense and sciences, all deal with temporal or phenomenal truth. Only theoretical discipline which is concerned with the transcendental is philosophy. Such truth has value and lead us to highest goal of life. The object of this truth, the *Brahman*, is beyond creation and destruction.

In the **Brahma Sūtra** Bādarāyaṇa has said *Brahman* is the source of everything that is produced and destroyed. The important point about this *Sūtra* is following: it tells us that knowledge or truth about *Brahman* is to be had from such *śruti-s* which tells us about *Brahman* as the source of created world. *Brahman* cannot be finally established in the way the Naiyāyika-s prove existence of God. So in the Advaita Vedānta the transcendental is established on the basis of *Āgama*.[11] In any case, philosophy which is concerned with it is a theoretical discipline. But as said earlier every empirical truth has the transcendental as part of its object (though every philosophical truth need not have empirical object). So we see that even the distinction between truths about temporal things and truths about transcendental entity is not absolute. So far we tried to make the point clear that absolute truth can be secured if objects are abstracted from time. If the object is formal or if the object is transcendental, then the truth may be absolute; such truths never change. They are never falsified by design. If objects are temporal, the knowledge is factual and empirical or *vyavahārika*. Temporality affects the nature of truth in this sense. Thus temporality and theory are importantly related. But is this the characteristic Indian way of conceiving a theory or relating temporality and theoretical enterprise? It does not appear to be so. Philosophy is a theoretical discipline. It aims at theoretical understanding. The understanding has great practical value. Philosophy aims at trans-temporal and transcendental truth. All sciences deal with temporal and phenomenal truth. Within sciences we do not draw distinction between formal (or transcendental) and empirical science. Moreover though the concern for the transcendental every Indian has, yet every Indian theoretician does not distinguish between truths of science and truths of philosophy as empirical and transcendental truth. In the Nyāya-Vaiśeṣika realist system we do not find even such realm distinction of reality for securing a special position for truths of philosophy. The Naiyāyika-s admit time as real. But they do not accept either (E.1) or (E.2). How are we to make out within Nyāya system that temporality of objects affects the truth of knowledge?

VI : CAUSAL RESTRICTION ON THE SCOPE OF TRUTH AND TEMPORAL LOGIC

Extreme Platonic position would be that sensory experience of spatio-temporal things cannot count as knowledge. One reason could be that such knowledge cannot have absolute truth. But it is hardly denied by any theoretician who is not an out and out skeptic that even cognition of such things can be true. So temporality affects truth not in the sense it makes truth impossible. But it restricts the scope of truths. One fundamental doctrine of the Nyāya-Vaiśeṣika system is that (E.3) - 'All human cognitions causal determinents'. Thus even the scope of truth is restricted by causal determinents. For instance, one fundamental truth of Nyāya Vaiśeṣika system is - quality and its substratum are utterly different. Two further truths of the system are (a) there are no bare particulars, and (b) qualities are dependent on their substrate - the substances. In view of these we can (c) define a substance as the thing in which qualities inhere. But the last two are to be modified in view of temporal things which are created. In case of created substances and qualities the dependence is *causal*. So (b) now means (b1) - qualities are caused by the substances in which they inhere when they are produced. This cannot be the meaning of (b) if the substances and qualities are uncaused. But once (b) is changed into (b1) we cannot define a substance as that which has quality. For the definition of a thing should apply to the thing always. But about caused substances and qualities it is not always true that substances are things which have qualities inhering in them. For, every quality of a created substance is itself *anitya* and create . So it comes into existence after the substance, which is its cause, is created. There is a moment therefore when the substance is created but the quality is not yet created. At that moment the created substance has no quality. It is the temporal and non-eternal nature of the substance which affects the truth.

Another all together different example of restriction on that scope of general truth can be given. A twenty four hour unit or a day-night (*ahorātra*) is immediately preceded by another such day-night. This is a general truth. But this truth obtains if there is creation or if the universe has been created. Succession of day-nights has beginning. Or the rule that every single day-night unit is immediately preceded by another such unit breaks down at the point when the world has been created. Again another example can be given. As a rule a man in his childhood learns the use of words by watching other men. These men learnt from their predecessors. They from their predecessors. But this rule has one defect. It cannot explain how the first man after creation learnt the use of words. There was no predecessor. To preserve the validity of the general rule even in case of the first created man God's help was needed. If the world was not created, if it were not in time it would not be limited. It would not be limited to the second man and his followers. The rule could not apply on the first created man or man in time. To extend the rule to him God is needed. This is one of the reasons why in the Nyāya system God is admitted.[12] Those who do not admit that the world was ever created need not admit God for this reason. Mīmāṃsā system is like that.

My point is that the Nyāya theory of philosophical truths is essentially a causal theory. (i) It uses causal model of explanation and gives a genetic explanation of knowledge and truth. (ii) More than this the Naiyāyika-s view certain relations as causal which are regarded in the Greco-European tradition as strictly logical. I shall explain both these points. To understand this few features need to be noted:

A. Perceptual truth or an inferential cognition is viewed as a cognitive episode. It is an actually occurring state of mind (self).

B. Truth of such cognition is itself believed to be a property caused by appropriate conditions.[13] Both the truth and the bearer of truth can be in time; causal explanation of them can be given.

One may think that even when certain things are in time, their relation may be logical and not temporal. Even those who (in the Greco-European tradition) do not admit propositions hold that logical relation obtains between sentences. In one sense sentences are in time but (a) relation of contradiction between them is logical but not causal and thus essentially atemporal. (b) This is also the case with the premises and conclusion of an inferential argument. But a Naiyāyika will inset causal reference in the formulation of contradiction as well as in the formulation of the inferential schema.

About (a) :
It is admitted that there obtains a relation of contradiction between two cognitions of the same things if one is false and the other is the corresponding truth. The sun is bigger than earth is a true belief about the sun. The corresponding false belief about the sun is that the sun is as small as a plate. The Naiyāyika-s would not formulate the relation simply as relation between *tatvati tatprakārakam jñānaṃ* (belief which cognizes a thing which has *F* as 'one which has *F*') and *tadabhāvavati tatprakārakam jñānam* (belief which cognizes a thing which does not have *F* as 'one which has *F*'). But the same thing cannot both have *F* and have absence of *F*. To cognize a thing as *F* will be true if the thing has *F*; then to cognize a thing as *F* which does not have *F* is false. A thing can have only *F* or only not *F*. But we can have about this thing both beliefs 'it is *F*' and 'it is not *F*'. These two beliefs are incompatible. This incompatibility may be viewed as logical contradiction. For both are about the same subject and both can neither be true nor false.

We can proceed further. There is a psychological necessity that if a man has one belief he cannot have other contradictory belief. The two are related as *pratibāddha - pratibandhaka*. And in our example, 'The sun is bigger then the earth' is the *pratibandhaka* or the true incompatible cognition which prevents the *occurrence* of its opposite. It is in terms of occurrence (*janya*) or causing (*janaka*) that the relation is formulated. Moreover in this case there is preventing cognition and yet the cognition which is to be prevented occurs. So the Naiyāyika-s reformulate the relation of *pratibāddha - pratibandhaka* thus : a cognition is *pratibandhaka* in

relation to the opposite cognition if no *dosa* (defect) is operative, in its production. There will be no *pratibāddha - pratibandhaka* relation between 'conch-shell is white' and 'conch-shell is yellow' if the cognizer of second *jñāna* has jaundice. What is important, therefore, is whether a cognition can prevent actual occurrence of another cognition. Such is the nature of relation of contradiction.

About (b) :
Relation between one premise of an argument and another premise is said to be the following. They jointly give the conclusion. But how do we understand the word 'jointly'. In the Greco-European tradition 'two premises *p*, *q* jointly give the conclusion' means - the conclusion follows from '*p & q*'. But this '&' is not a temporal relation. So we can reverse '*p & q*' into '*q & p*'. But when a Naiyāyika says that we get *anumiti* or inferential cognition from *vyāpti jñāna* (*smṛti*) and *parāmarśa*, they mean that the relation between them cannot be changed. We cannot have first *parāmarśa* and then *vyāpti-jñāna*. For *parāmarśa* is causally dependent on *vyāpti-jñāna*. *Parāmarśa* episodically follows *vyāpti jñāna* and *anumiti* episodically follows *parāmarśa*. The inferential relation is a relation of causal dependence and hence is characterized by innate temporality. There are no two types of dependence one causal and another logical or one temporal and another atemporal.

I would, therefore, like to conclude that in the Indian theoretical tradition the structure of a theory recognizes temporality to be very important feature intrinsically imbedded in it. But it does not seem that atemporality of objects was 'he most important thing for them. The important thing is the unified conception and structure of a theory. A theory whether scientific or philosophical is an explanatory theory. The model of explanation is causal. It is through this that temporality determines the structure of a theory. For instance, the relation between the elements of a theory (states of cognition in case of the theory of inference) are primarily causal. And of the two terms of any causal relation at least one must be temporal.

NOTES

1. Cf. A.L. Basham, "An Ancient Indian Ideas of Time", in D.C. Sarkar (ed.) *Pracyavidya Tarangini*, Calcutta: University of Calcutta Press, 1969.
2. Bradley, for example, does not accept time as real. F.H. Bradley, *Appearence and Reality*, chapter on Space and Time. This is one of the points which seriously disturbed men like Russell and Moore. Among the Indian Philosophers, the Bauddha as well as Sankhya philosophers reject time in different senses. See Mahamohapadhyaya Haran Chandra Bhattacharya, *Kālasiddhānta Darśini* for the overview of various Indian theories of Time.
3. Śāstri Pañchānan (ed.), Dharmarājadhvarindra's *Vedānta Paribhāṣā*, Calcuttta, Sakabda 1883, pp. 227-228.
4. Bauddha conception of *saṃvṛti sat* corresponds to *vyavahārika sat* of the Advaitin.

5. Uma Chattopadhya, "Skepticism and Indian Epistemology", in *Journal of Philosophy*, Vol. I. No. 1, Jadavpur University, Calcutta.

6. Śāstri Pañchānan, *Paribhāṣā Saṃgraha* on Dharmarāja's *Vedānta Paribhāṣā*, Calcutta, Sakabda 1883, p. 13.

7. Dharmarājadhvarindra, *Vedānta Paribhāṣā*, Chapter seven.

8. Śankaracārya - *Gitā Bhāṣya*, 2.16.

9. This view is referred to Vārśayani. Cf. *Nirukta*, 1.2.

10. Bādarāyaṇa, *Brahma Sūtra*, 1.1.2.

11. Śankarācārya, *Śariraka Bhāṣya*, 1.1.2.

12. Udāyanācārya, *Nyāya Kusumañjali*, 2.2

13. The Naiyāyika-s are *parataḥ pramāṇya vādin*-s. According to them *pramāṇya* of occurrent cognition is caused by *kāraṇa guṇa*.

VI

बाधकभाव मुक्त व्याप्ति बाधकभाव युक्त नियम

समदोङ् रिनपोछे

नमो गुरू मन्जुघोषाय

तथागत बुद्ध ने अपने अनुयायियों से कहा–

तापाच्छेदाच्च निकषात् सुवर्णमिव पण्डितैः।
परीक्ष्य भिक्षवो ग्राहयं मद्वचो न तु गौरवात्।।

[तत्त्व संग्रह, 3587]

श्लोक का आशय स्पष्ट है। व्यक्ति को प्रत्येक विषय-वस्तु को स्वयं प्रमाण द्वारा प्रमाणित करके ही स्वीकार करना चाहिए, न कि किसी के कहने पर अथवा आगम के आधार पर। किसी प्रमाण द्वारा संस्तुत न होने पर कोई बात स्वीकार कर लेना पृच्छावान् व्यक्ति का कार्य नहीं है।

समस्त वस्तुओं को दो वर्गों में समाहित किया जा सकता है – यथा प्रत्यक्ष एवं अपरोक्ष।

प्रत्यक्ष-विषय प्रत्यक्ष-प्रमाण द्वारा प्रमाणित होता है एवं अपरोक्ष-विषय अनुमान-प्रमाण द्वारा सिद्ध किया जाता है। इस कारण दो प्रमाणों की ही सार्थकता है, किसी तीसरे प्रमाण की आवश्यकता या उसके अस्तित्व दोनों का ही निषेध समझना चाहिए। जैसा धर्मकीर्ति ने कहा है–'मानं द्विविधं विषयद्वैविध्यात्' [प्रत्यक्ष परिच्छेद, प्रमाण-वार्त्तिक, प्रथम श्लोक]

प्रत्यक्ष विषयों में विषय के अवान्तर भेद से इन्द्रिय-प्रत्यक्ष तथा मनस्-प्रत्यक्ष का निर्धारण होता है। विषयक आकार के चित्त में आकारित होने पर प्रत्यक्ष-प्रमाण उत्पन्न होता है और अनुमान-प्रमाण सम्यक् हेतु-जन्य है। सुबोध सम्यक् हेतु द्वारा दुर्बोध अपरोक्ष विषय का बोध करते हैं। अतः सत्य-दर्शन की आकांक्षा रखने वालों के लिये सम्यक् हेतु का चिन्तन एक नितान्त आवश्यक प्रक्रिया है।

सम्यक् हेतु वह है जो त्रिरूप सम्पन्न हेतु है, यथा–पक्षधर्मिता, व्याप्ति एवं व्यावृत्ति। जैसा धर्मकीर्ति ने कहा है–

पक्षधर्मस्तदंशेन व्याप्तो हेतुः तत्त्रिरूपत्वम् त्रिधैव सः।
अविनाभावनियमात् हेत्वाभासः हेत्वाभासास्ततोऽपरे।।

[स्वपरिच्छेद, प्रणाम-वार्त्तिक, प्रथम श्लोक]

(1) हेतु विचारणीय-पक्ष के ऊपर जब सिद्ध होता है तो पक्षधर्मिता का ज्ञान होता है,
(2) हेतु पक्षधर्म पर व्याप्त सिद्ध होता है तो व्याप्ति का ज्ञान होता है और
(3) हेतु विपक्षधर्म पर अभाव सिद्ध होता है तो व्यावृत्ति का ज्ञान होता है।

व्याप्ति एवं व्यावृत्ति की सिद्धि हेतु एवं साध्य-धर्म के सम्बन्ध के आधार पर निर्भर करती है। कार्य-कारण का सम्बन्ध अथवा तादात्म्य सम्बन्ध दो प्रकार के हैं : अग्नि एवं धूम्र का सम्बन्ध कार्य-कारण भाव का सम्बन्ध है और संस्कृत तथा अनित्यता का सम्बन्ध तादात्म्य-सम्बन्ध है। ये दोनों सम्बन्ध 'अविनाभाव सम्बन्ध' हैं।

उपर्युक्त किसी एक सम्बन्ध वाली वस्तुओं के मध्य में ही व्याप्ति बन सकती है, अन्यथा सम्बन्ध के अभाव में व्याप्ति नहीं बन सकती। उदाहरण के लिए सुदूर पर्वत पर अग्नि के अस्तित्व के विषय में संशयवान् व्यक्ति के लिये पर्वत की अग्नि अपरोक्ष विषय है जो हेतु से ही सिद्ध की जा सकती है। प्रत्यक्ष प्रमाण से पर्वत पर धूम्र की उपस्थिति दिखाई देती है तो विचारणीय पक्ष पर्वत पर धूम्र की उपस्थिति का ज्ञान 'पक्षधार्मिता' का ज्ञान कहलाता है।

तत्पश्चात् जहाँ जहाँ धूम्र होता है वहाँ अग्नि होती है, क्योंकि धूम्र अग्नि का फल है। कार्य-कारण भाव के सम्बन्ध से ऐसा है। इस ज्ञान से हेतु धूम्र पक्षधर्म अग्नि पर व्याप्त सिद्ध होता है, जिससे व्याप्ति का ज्ञान होता है। उस ज्ञान के साथ ही जहाँ अग्नि नहीं होती है, वहाँ धूम्र नहीं होत है, इसका भी ज्ञान हो जाता है। अर्थात विपक्षधर्म अग्नि-रहित स्थान पर धूम्र का अभाव सिद्ध होता है तो 'व्यावृत्ति' का ज्ञान होता है।

उपर्युक्त त्रिरूप का बोध सम्यक् क्रम से होने पर धूम्र के हेतु से अग्नि-बोध का अनुमान-प्रमाण उत्पन्न होता है।

उक्त व्याख्यान से यह स्पष्ट है कि व्याप्ति उन धर्मों के बीच बनती है जिनमें कार्यकारण भाव या तादात्म्य-सम्बन्ध हो। अतः व्याप्ति का सहज-सिद्ध होना आवश्यक है। यह कभी कृत्रिम नहीं हो सकती। इसलिये व्याप्ति में न तो कभी उल्लंघन हो सकता है, न ही अपवाद। जहाँ जहाँ अपवाद की संभावना होगी वहाँ सम्बन्ध का लक्षण बाधित होगा। सम्बन्ध के बाधित होने पर व्याप्ति का प्रश्न नहीं रहता। नियम सम्बन्ध पर आधारित नहीं है, अपितु आवश्यकता या प्रयोजन के आधार पर नियम बनते हैं। वह कृत्रिम हैं।

उष्मता अग्नि का स्वभाव है, परन्तु नियम नहीं है। कहाँ अग्नि प्रज्वलित की जानी चाहिए, कहाँ उसे प्रज्वलित नहीं किया जाना चाहिए आदि नियम बनाए जाते हैं। परन्तु यह नियम अग्नि के स्वभाव नहीं हैं। इस कारण परिस्थिति, प्रयोजन तथा आवश्यकता के भेद से नियमों में परिवर्तन, अपवाद तथा उल्लंघन की संभावना बराबर रहती है। नियम के पीछे भी कोई न कोई न्याय या कारण अवश्य होगा, फिर भी नियमों के द्वारा न तो कोई सम्यक् हेतु बन सकता है, न

ही अनुमान-प्रमाण का उपादान-हेतु हो सकता है। प्रयोजन-शास्त्र जिस विषय का भी हो, वह एक सामान्य प्रयोजन और एक विशेष प्रयोजन को लक्ष्य में रखकर ही रचा जाता है। किसी भी प्रयोजन-शास्त्र के अन्तर्गत अनेक नियम, अनेक हेतु समाहित हो सकते हैं। उसकी संरचना में नियम और व्याप्ति दोनों के महत्त्व में कोई अन्तर नहीं होता। यथास्थान, यथावसर प्रयोग के आधार पर शास्त्र का ढांचा निर्मित होता है।

उदाहरण के लिये चिकित्सा शास्त्र को लिया जाये तो उसके विशेष प्रयोजन चिकित्सा-ज्ञान तथा आरोग्य-लाभ हैं। इनमें रोग के कारण अथवा औषधि की सूक्ष्म शक्ति आदि विभिन्न अपरोक्ष विषयों को सिद्ध करने के लिये हेतु का उपयोग करते हैं और उससे 'व्याप्ति' भी बनती है तथा उसके साथ चिकित्सा-सेवन के नियम, रोगियों के आचार सहित आदेशात्मक नियम आदि भी निर्मित किए जाते हैं।

बौद्ध शास्त्रों में नियम शब्द अनेक बार निश्चय (Certainty) के अर्थ में भी प्रयुक्त होता है, जैसे 'अविनाभाव-नियामकता'। [पूर्वोल्लिखित]। जब इस अर्थ में नियम का प्रयोग किया जाता है तो नियम में कोई अपवाद या उल्लंघन होने का अवकाश नहीं होता। जहाँ फल का उत्पाद नियामक हो वहाँ अपवाद नहीं है, जहाँ फलोत्पाद के योग्य हो वहाँ अपवाद होता है। अतः इस तरह नियम के शाब्दिक अर्थ भी वाक्य-रचना की परिस्थिति के अनुसार ही होंगें। नियम में अपवाद की बात उन नियमों में घटित नहीं होगी जो निश्चय के अर्थ में प्रयुक्त हैं।

इसी प्रकार व्याप्ति, हेतु, नियम, उपदेश, तर्क आदि विभिन्न प्रकार के उपाय एवं उपक्रम की समग्रता से शास्त्र की संरचना प्रयोजन-सिद्धि के उन्मुख की जाती है। यह सामान्य परिस्थिति है।

परमार्थ दृष्टि से देखा जाये तो प्रयोजन, उपाय जो सामान्य पृष्ठभूमि में प्रयुक्त हैं, उनमें से किसी की भी स्वतंत्र सत्ता नहीं है। प्रत्येक वस्तु 'प्रतीत्य समुत्पन्न' है, माया-सदृश आभास मात्र है जिसमें शब्दों और कल्पनाओं का जाल बिछाकर तार्किक विश्लेषण में सारे बुद्धिजीवी संलग्न हैं और इस बन्धन को ही अपना ''अलङ्कार'' समझ बैठे हैं।

VII

PĀṆINI'S PERCEPTION OF A RULE AND OF ITS RESTRICTION AND EXTENSION

VIDYA NIWAS MISHRA

Pāṇini's grammar is one string of rules arranged in a manner that each one of them has its own domain and yet none of them by itself is independent of the other. The grammar looks at language (here sanskrit) usage as one totality of mutually inter-linked entities. This grammar is not a word grammar, it is a sentence grammar and goes beyond sentence into the realms of discourse, otherwise sentence types such as *masna* (interrogative), *maisa* (command) and *hetumat* (conditional) and speech situations like *paripsā* (hurry), *vicāryamāna* (pondering) and *abhyadāna* (initiating a discussion) would hardly be required as parameters in rules pertaining to sentence accent. Furthermore Pāṇini's grammar is not merely a descriptive analysis of a well observed speech phenomena. It is a mapping of human cognitive patterns, as is evidenced by the use of categories like *upamāna* (to which comparison is made) and *upamata* (that which is being compared).

With these brief observations, I would proceed to look at *sūtra*, the term for a Paninian rule. A *sūtra* must have following properties.

1. It should be brief

2. It should be unambiguous

3. It should give just the essence of the matter

4. It should have a general applicability

5. It should not upset the string (it should not block or paralyse the operation of the entire string), and

6. It should be faultless.

In order to achieve this ideal, Pāṇini devised a method which would effect economy and at the same time which would ensure clear demarcation of the domain of each defined term as well as embody clear understanding of the interlocking system. The interlocking system unambiguously and explicitly spells out what

combines with what and in what order and under what conditions. He formulated a set of definitional rules and applicational rules for his metalanguage and then proceeded to formulate rules for mapping out the language with the help of his metalinguistic tools. He arranged his rules under headings and sub-headings, thereby doing away with repetition of the same context over and over again in one *sūtra* after the other. He also arranged his **Aṣṭādhyāyī** in a manner so as to resolve contradictions if any through the force of the order in which a particular rule is placed in the **Aṣṭādhyāyī**.

Let me now briefly examine the terms *utsarga* and *apavāda*. Both do not occur in the body of the **Aṣṭādhyāyī**, but they are implicit no doubt there in. The formation of *apavāda* is no doubt discussed in the sūtra *apādavādaḥ* [*Aṣṭādhyāyī* I.3.73], but the word itself is absent. So is *utsarga*. The derivative meaning of *utsarga* is opening out, delivering, handing out, giving away, setting free, casting away, so that *utsarga* comes to mean secondarily a precept or a rule which opens up several possibilities and yet is unique, distinct from a similar rule or precept. The derivative meaning of the word *apavāda* on the other hand is blame, denial or refutation, contradiction, diversion, and distraction, so that secondary meaning as an exception to a general rule has the connotation of both restriction and diversion. Pāṇini has following main explicit rules in this regard.

1. *Ākaḍārādekā saṃjñā* [*Aṣṭādhyāyī* I.4.1]. - A grammatical term can not have more than one designation in the domain of rules upto *Astadhyayi* II.2.38. For example, it could be either *tatpuruṣa* or a *karamadhāraya* but not both.

2. *Vipratiṣedhe paraṃ kāryaṃ* [*Aṣṭādhyāyī* I.4.2.].- When more than one designation apply to a term and there is a contradiction in between two *sūtra-s*, giving out two different designations to the same entity, the succeeding rule will apply.

3. *Vā sarūpoastriyāṃ*, [*Aṣṭādhyāyī* III.1.94.]. - An affixation rule may or may not be blocked by another affixation rule if the affix under description is not identical in form, but this would not apply to rules pertaining to feminine suffixes.

4. *Purvatrāsiddhaṃ* [*Aṣṭādhyāyī* VIII.2.1.].- All the rules preceding [*Aṣṭādhyāyī* VIII.4.1] should be deemed to be *asiddha* (re-openable), so that a new cycle of rules even in contradiction to the rules of the proceeding chapter can come into force.

This is a device to put some residuary rules under one section, and has other restrictive and extending rules as well. If we look at them, we find that:

1. Pāṇini makes a distinction between map and territory. His metalanguage is a map while natural language is a territory. The rules applicable to

metalanguage are therefore not necessarily the same as those that apply to the territory.

2. An ideal map has to show not only the places, regions, their linking and their relatedness in term of direction, but also the contour and the topography of the territory.

An ideal grammar has to show in a similar manner not merely the constituents and sub-constituents of a language, but also the interrelations of these constituents and their social and psychological elevations and depths.

3. Pāṇini's grammar is an attempt to achieve this ideal goal. His rules therefore are well-knit and yet re-openable rules. The provision of *ākṛtigaṇa* (analogical formations) and the provision of *vibhāṣā* (optionality) makes his grammar comprehensive and yet specific. The optionality is of three different kinds:

   1. Free variation between *a* and *b*.

   2. Conditioned variation from *a* to *b* in a specific environment, and

   3. Multivalent variation.

The distinctive feature of an extension rule (*atideśa*) as different from that of a restriction rule is that the *atideśa* rule is intended to widen the scope or domain of a rule and to give out a more unified field of operation, while that of a restriction rule is to clarify and to achieve precision.

Both are necessary in a human cognitive endeavor as both together make an integral whole. Pāṇini's restriction and extension rules are loops within and out of the domain of a rule, they are not in anyway independent of the general rule.

These rules serve the purpose of resolving contradictions inherent in the arbitrariness of speech behavior rather than highlighting the contradictions.

To take one example from **Aṣṭādhyāyī** - *sarvanāma* is defined in terms of a set having *sarva* as the first member in [*Aṣṭādhyāyī* I.1.27] and the succeeding *sūtra-s* [I.1.38-36] either restrict the operation of this rule in definite situation or extend (open up) the operation in other definite situations. Even when they restrict the operation, they can not create a vacuum, as even if *purva* or *dakṣiṇa* ceases to function as a *sarvanāma*, its residuary designation as *pratipādika* remains operative.

There are other like *purva, apara, adhara* etc. to which *sarvanāma* designation is extended in certain defined situations. The conditions for restriction or extension could be grammatical, phonological or semantic. This interlocking of designations

with conditions within and out makes the entire **Aṣṭādhyāyī** as *one rule* or rather one chain of rules (*ekavākyatā*), taking out the absoluteness of a single rule.

The *ekavākyatā* of **Aṣṭādhyāyī** is an important requirement to understand for grasping the nature of Pāṇinian rule. Every rule draws its status from an over-arching *ekavākyatā*. There can be no independent absoluteness associated with a single rule. *Utsarga* and *apavāda* status, which can only be ascribed to essentially relative rules, is also for the sake of *ekavākyatā* or the unity and authenticity of the total map. Extensions and restrictions rules may undergo for the sake of the authenticity of the map. Though Pāṇini formulated so many rules but he never succumbed to the temptation of calling a particular rule or a set of rules as fundamental or essential. A claim that a particular rule or set of rules constitute foundations or essence of language was never made or rather could not be made in Pāṇinian logical scheme. To search for an essence or foundation would violate requirement of *ekavākyatā* and the responsibility of the grammatical theory towards the practice of language. This precisely was the temptation which early Greek thinkers succumbed to when the notion of axiom was formulated and when philosophers endlessly searched for foundations or essences. Pāṇini clearly stayed away from the foundationalist or essentialist fallacy. *Utsarga* and *apavāda* status of rules illustrates this most explicitly. The status of rule is relatively contingent to the requirement of *ekavākyatā* and *prayojana* of *śāstra* and can not be grounded on metaphysics of self evident essence or foundation.

VIII

व्याकरणे बाधबीज विमर्श:

पं. अवधबिहारी त्रिपाठी

श्रीगणेशाय नमः

श्रीपाणिनिं प्रणिपनीपतमानतोऽस्मि ।

ननु 'कश्चित् उत्सर्ग : कर्तव्यः, कश्चिदपवादः' इति भाष्यप्रामाण्येन सामान्यविशेषरूपेण लक्षणं प्रवर्त्यमिति लक्ष्यैकचक्षुष्काणां लक्ष्यमनुसृत्य शास्त्रं प्रवर्त्यमिति युगपत् अनेकशास्त्रप्रवृत्त्यापत्तौ कार्यासम्भवात्, कतरेण भाव्यमिति विचारणावसरे अनवस्थादोषप्रसङ्गात् कस्य प्राबल्यं कस्य दौर्बल्यमिति अकारणं पक्षपातमनतिक्रम्य कार्यकरणार्थं बाध्यबाधकभावस्य प्रसक्तिर्जायते । तत्र पाणिनिसूत्रे 'विप्रतिषेधे परं कार्यम्'[1] पूर्वपूर्वस्य बलवत्त्वमुत्तरोत्तरस्य दौर्बल्यमिति सामान्यतः दरीदृश्यते । तत्र तुल्यबलविरोधे परस्यैव बलवत्त्वम् न पूर्वस्येति सूत्रार्थ :।

विप्रतिषेधत्वञ्च स्वस्मिन् स्वस्मिन् लक्ष्ये चारितार्थ्ये सति एकस्मिन् लक्ष्ये समावेशत्वं यथा हशि च[2] इति सूत्रं हशत्वाव्यवहितपूर्वत्वविशिष्टस्य अप्लुतात् अतः परस्य रोरुत्वम् इत्यर्थकम् 'शिवो वन्द्यः' इत्यादौ चरितार्थम् । एवमेव 'रो रि'[3] इति सूत्रं 'पुना रमते' इत्यादौ रेफाव्यवहितपूर्वत्वविशिष्टस्य रोर्लोप इत्यर्थकं चरितार्थम् । तयोरविरोधेन निजे निजे लक्ष्ये चरितार्थत्वेन एकत्र 'मनोरथः' इत्यादौ 'मनर् रथः' इति दशायां युगपदेव तयोः प्राप्तिरिति सुसष्टमेव प्रतीयते। तत्रोक्तनियमसूत्रेण नियमने कृते 'रो रि' इत्यस्य प्राप्तेऽपि रोर्लोपे असिद्धकाण्डेन 'पूर्वत्रासिद्धम्'[4] इत्यनेन त्रिपादिनो 'रो रि' इत्यस्यासिद्धत्वात् उत्वे 'मनोरथः' इति साधुर्भवति । एतेन 'पूर्वत्रासिद्धम्' विहायैव विप्रतिषेधसूत्रं प्रवर्तत इति निश्चितम् ।

त्रिपादिषु परस्यासिद्धत्वात् पूर्वस्यैव बलवत्त्वमिति उभयं समञ्जसम्। लोकेऽपि कदाचित् भक्तगोपीजनस्य गृहे भगवान् श्रीकृष्णः वनमालां परिधाय रहस्यागत आसीत्, अत्रान्तरे अकस्मात् तत्पतिरपि समायात इति तया पृष्टान्यसखी – आयातो वनमाली गृहपतिरालि! समायात इति । तयोक्तम् – यत् स्मर सखि ! पाणिनिसूत्रम् – विप्रतिषेधे परं कार्यमिति । विप्रतिषेधस्य परस्य प्राबल्यं द्योतत इति। अत्र विचार्यते – क्वचित् पूर्वस्यापि कार्यं दृश्यते। श्रीमता भाष्यकारेण विप्रतिषेधे परं कार्यम् इति सूत्रे अपरम् इति च्छित्वा परशब्दस्य चेष्टवाचित्वमिति स्वीकृत्य परम् अर्थात् यदिष्टं तदेव कार्यं भवति लक्ष्यानुसारीति व्याख्यातम् । पूर्वपरयोः परस्य बलवत्त्वं प्रतिपाद्य इदानीं परनित्ययोः परान्नित्यं बलवत् इत्युच्यते। कृताकृतप्रसङ्गित्वं नित्यत्वमिति । युगपत् प्राप्तयोः यस्य कृतेऽकृतेऽपि यस्य प्राप्तिः तस्य नित्यत्वम् ।

यद्यपि लक्ष्यानुसारिव्याख्यानेन कुत्रचित् कुत्रचित् नित्यस्याप्यनित्यत्वं बोधितम्, शब्दान्तरस्य प्राप्नुवन् विधिरनित्य इत्यादि तत् अग्रे वक्ष्यते । इदानीं तु क्रमशः परान् नित्यं बलवत् इत्येवमेव विचार्य्यते तथाहि तुदति इत्यादौ, तुद्धातोर्लटि तिपि अनुबन्धलोपे 'तिङ्शित् सार्वधातुकम्'[5] इति सार्वधातुकसंज्ञायां शपि प्राप्ते, अपवादत्वात् तं प्रबाध्य शे प्राप्तौ तिपः सार्वधातुकत्वात् पुगन्तलघूपधस्य चेति येन नाव्यवधानमिति, तेन व्यवहितेऽपि वचनप्रामाण्यात् उपधागुणस्य च युगपदेव प्राप्तौ परत्वात् गुणे प्राप्ते कृताकृतप्रसङ्गित्वेन नित्यत्वात् शे प्रत्यये सार्वधातुकमपिदिति[6] शस्य ङित्त्वेन 'क्ङिति च'[7] इति गुणनिषेधे तुदति इति इष्टप्रयोगसिद्धिः । अन्यथा तोदतीत्यनिष्टं स्यादिति । परान्नित्यस्यबलवत्त्वे बीजं तु अक्लृप्ताभावकस्य अभावकल्पनापेक्षया क्लृप्ताभावकस्य अभावकल्पनमेवोचितम् अर्थात् स्वविशिष्टं शास्त्रं स्वापेक्षया बलवदिति स्वस्मिन् वैशिष्ट्यञ्च स्वप्रवृत्तिप्राक्कालिकप्राप्तिकत्वस्वप्रवृत्त्युत्तरकालिकप्राप्तिकत्वस्वनिष्ठान राङ्गत्वानिरूपकत्वस्वनिष्ठापवादत्वानिरूपकत्वमिति सम्बन्धचतुष्टयेन ज्ञेयम् । अतः परं भाष्यसम्मतं नागेशोक्तं 'परनित्यान्तरङ्गापवादानामुत्तरोत्तरं बलीयः' इति परिभाषारूपं परान्नित्यं बलवत् परनित्याभ्याम् अन्तरङ्गं बलवत्, परनित्यान्तरङ्गेभ्योऽपवादो बलीयानिति । पूर्वपूर्वस्य दौर्बल्यमुत्तरोत्तस्य च बलवत्त्वं द्योतते। क्रमश उदाहरणानि–

(1) परान्नित्यस्य बलवत्त्वं यथा–

तुद्धातोः लटि तिपि 'तुदादिभ्यः शः'[8] इति सूत्रेण नित्यं शप्रत्ययं बाधित्वा परत्वात् पुगन्तलघूपधस्य चेति' लघूपधगुणः प्राप्तः । एष गुणः शप्रत्यये प्रवृत्ते सति न प्रवृत्तिमर्हति यतः तदोपधायां लघुस्वरो न वर्तते। तुद् इत्यस्य दकारोपधत्वं न तु उकारोपधत्वम् । परन्तु शप्रत्यये कृतेऽकृतेऽपि प्रवृत्तिरस्ति । अतः स नित्यः । यतः कृताकृतप्रसङ्गी यो विधिः स नित्यः । अतो लघूपधगुणं बाधित्वा नित्यः शप्रत्ययः प्रथमं प्रवर्तते, ततः शस्य ङित्त्वात् क्ङितिचेति निषेधेन न गुणः तेन तुदतीति सिध्यति ।

(2) परादन्तरङ्गं यथा–

उभये देवमनुष्याः अत्र प्रथमचरमेति परमपि विकल्पं बाधित्वा सर्वादीनीति नित्यैव सर्वनामसंज्ञा भवति । तस्या विभक्तिनिरपेक्षत्वेनान्तरङ्गत्वात्।

(3) परादपवादो यथा–

दधिशब्दस्य टाविभक्तौ अस्थिदधीति[10] सूत्रेणानङादेशेऽत्रानङ्परमपि अनेकाल्शित्सर्वस्येति[11] सवदिशं बाधित्वा ङिच्चेति अन्तादेशः तस्यापवादत्वात् । यतः ङिच्चेति[12] सूत्रं येन नाप्राप्तन्यायेन अनेकाल् शित् सूत्रस्यापवाद :।

(4) नित्यात् अन्तरङ्गं यथा–

'ग्रामणिनी कुले' इत्यत्र नित्यमपि इकोऽचि विभक्तावििति नित्यं नुमं बाधित्वा ह्रस्वोनपुंसके प्रातिपदिकस्येति[13] ह्रस्वः । प्रथमं तावत् नुमि कृते अनजन्तत्वात् ह्रस्वं न स्यात् ।

(5) अन्तरङ्गात् अपवादो यथा–

दैत्यारिः – श्रीशः इत्यादौ परमपि सवर्णदीर्घं बाधित्वा अन्तरङ्गत्वात् 'आद्गुणः'[14] इति गुणे, 'इको यणचि'[15] इति यणि च प्राप्ते अपवादत्वात् सवर्णदीर्घः एव।

इदानीमपवादस्य सर्वप्राबल्यं विचार्यते। अत्र बीजं निरवकाशत्वमेव । बहुतरमनप्रणिधान–संनिधानेन सूत्राणि विरचयन्ति स्म आचार्याः इति । तत्र 'वर्णेनाप्यनर्थकेन न भवितव्यम्' इति भाष्यवचनेन यस्य निरवकाशत्वं भवति, तस्य प्राबल्यमित्यत्र नास्ति सन्देहलेशः । अपवादेषु सूत्ररचनानुसारेण न्यायत्रयमुपतिष्ठते। (1) 'पुरस्तादपवादाः अनन्तरान् विधीन् बाधन्ते नोत्तरान्', (2) 'मध्येऽपवादाः पूर्वान् विधीन् बाधन्ते नोत्तरान्', (3) येन नाप्राप्ते यो विधिरारभ्यते स तस्य बाधको भवति।'

यत्कर्तृकावश्यप्राप्तौ यो विधिरारभ्यते स तस्य बाधको भवतीति । सावकाशे संजाते अपवादे। अपवादो यदन्यत्र चरितार्थः, तर्हि परेण बाध्यत इति तु अन्यदेतत् बीजाभावात् । तत्रापवादशास्त्रे पक्षद्वयं बाध्यसामान्यचिन्तापक्षः, बाध्यविशेषचिन्तापक्षश्च । प्रथमस्तु मद्विषये यद् यद्प्राप्तं तत्सर्वं बाध्यम्, द्वितीयो बाध्यविशेषचिन्तापक्षः अर्थात् मद्विषये यत् प्राप्तं तत् किं बाध्यं किं न बाध्यमिति ।

बाध्यविशेषचिन्तापक्षे उत्सर्गापवादयोः पूर्वम् अपवादसूत्रं निर्माय तदनन्तरमुत्सर्गशास्त्रं यत्र निर्मीयते, तत्रैष न्यायः समुपतिष्ठते पुरस्तादपवादाः इति उत्सर्गसमानदेशा अपवादाः इत्यपि विचारो वर्तते ननु अन्तरङ्गादप्यपवादो बलीयानिति अन्तरङ्गशास्त्रेभ्योऽपि अपवादस्य बलवत्त्व–मुच्यते । अत्र येन नाप्राप्तन्याये 'न प्राप्त' अप्राप्तः, 'न अप्राप्त' इति नाप्राप्तः । तत्र येन नाप्राप्त इत्यस्य नञ्द्वयसामर्थ्यात् यत्कर्तृकावश्यप्राप्ता इत्यर्थः स च विशेषशास्त्रोद्देश्यः, विशेषधर्मा–वच्छिन्नवृत्तिसामान्यधर्मावच्छिन्नोद्देश्यकशास्त्रस्य विशेषशास्त्रेण बाधः । सामान्यशास्त्राप्राप्तियोग्ये–ऽचारितार्थ्यम्, विशेषशास्त्रस्य बाधकत्वे बीजम्। अत एव, आयादय आर्धधातुकेवेति[16] सूत्रे गोपायिष्यत्यादौ आयादीन् बाधित्वा परत्वात् स्यादयः प्राप्नुवन्ति इत्याशंक्य अनवकाशात् यतो गोपायत्यादावपि। आयादीन् बाधित्वा शप् प्रभृतयः प्राप्नुवन्तीति आयादीनामपवादत्वात् समाहितम्। न च सति शपि असति वा नाविशेषः। अन्यदिदानीमुच्यते – नास्ति विशेषः इति। यदुक्तम् आयादीनां स्यादिभिः अव्याप्तोऽवकाश इति। स नास्त्यवकाश इति भाष्ये उक्तम् । एवमत्र एतत्प्रवृत्त्युत्तरं चारितार्थ्येऽपि तदव्याप्तोऽवकाशो नास्तीति सममेव । अनेन न्यायेन तत्प्रवृत्त्यन्त–रमपि चारितार्थ्ये तद्बाधबोधनं । सर्वेभ्यो दधि दीयतां तक्रं कौण्डिन्यायेति न्यायस्यापि वैयर्थ्यापत्तेश्च । अत एव अजादिषु द्वितीयद्विर्वचनोत्तरमपि प्रथमद्विर्वचनस्य प्राप्तौ तस्य बाधः। यथा च आदेरपि प्रवृत्त्या चरितार्थेनादेः परस्य इत्यनेन अलोऽन्त्यस्येत्यस्य बाधः । अत्रार्थे मिदचो–ऽन्त्यात्परः, इति सूत्रस्थभाष्यमपि सत्यपि सम्भवे बाधनम् भवतीति प्रमाणम् । एतेन विषय–भेदेऽपि अपवादत्वं भवतीति । अतएव 'अचि र ऋतः'[17] इति सूत्रे रादेशेन नुटोऽपवादत्वात् बाधमाशंक्य 'न तिसृ चतसृ इति'[18] सूत्रारम्भसामर्थ्यात् ज्ञापकात् नुटोऽभावः समाहितः भाष्ये।

तेन विषयभेदेऽपि अपवादत्वाभाव एव बोध्यत इति कैश्चिदुक्तं तन्न । 'विन्मतोर्लुक्'[19] इति लुका टिलोपमात्रस्य बाधनापत्तेः। यत्तु दयतेर्दिगीति[20] सूत्रे द्वित्वोत्तरं दिग्यादेशस्य चारितार्थ्यम्, कैयटेनोक्तम् तत् प्रौढ्या । ध्वनितञ्च तेनापि तस्य तथात्वम् तदुत्तरग्रन्थेन असंभव एव बाधकत्वं विरोधस्य । तद्बीजत्वादिति वार्तिकमतं तु भाष्यकृता दूषितत्वान्न लक्ष्येसिद्ध्युपयोगि । तक्रकौण्डिन्यन्यायोऽपि तदप्राप्तियोग्येऽचरितार्थविषयो विधेयविषय एव चेति 'तद्धितेष्वचामादेः'[21] 'धातोरेकाच्'[22] इत्यादि सूत्रेषु भाष्ये स्पष्टम् । क्वचित् सत्यप्यपवादत्वे उत्सर्गः प्रवर्तते । तद् यथा क्वचित्त् सर्वथानवकाशत्वादेव बाधकत्वम् यथा – ङे.रामादेशः याडादीनां बाधकः,[23] अन्यथा याडादिषु कृतेषु नामभावः प्राप्नोति 'निर्दिश्यमानस्यादेशा भवन्ति' इति व्यवधानात् । अत्र बाधत्वं तु स्वस्य पूर्वं प्रवृत्तिरेव । तत्र बाधके प्रवृत्ते यदि उत्सर्गस्य प्राप्तिर्भवति तदा भवत्येव यथा तत्रैव याडादयः । अप्राप्तौ तु न प्रवर्तते यथा पचेयुरित्यादौ दीर्घत्वं प्रबाध्य निरवकाशत्वात् 'अतो येय'[24] इति इयादेशे दीर्घाभावः, तदेवं समर्थ्यते एतेन यत् 'क्वचित् अपवादविषयेऽप्युत्सर्गोऽभिनिविशते ।' एवं च 'गुणो यङ्लुकोरिति'[25] सूत्रे भाष्येऽभ्यासविकारेषु अपवादाः उत्सर्गान् न बाधन्ते । 'अजीगणत्' अत्र गणेरीत्वमपवादत्वात् अतोऽत्र अपवादशब्दः बाधकार्थकः न गणेरीत्वमपवादत्वात् हलादिःशेषं[26] बाधते। किं तर्हि अनवकाशत्वात् इति ग्रन्थेन।

गणरूपाभ्यासान्त्यणस्य ईत्वमिति हलादिःशेषेण तन्निवृत्तौ तदनवकाशत्वमीत्वे तु कृते न तस्य प्राप्तिरन्त्यस्य हलोऽभावात्, एतेन अभ्यासविकारेषु बाध्यबाधकाभावः साधितः । सति च तस्मिन् लोपे कृते सामर्थ्यात् शिष्टस्य अन्त्यस्य ईत्वम् इति न दोषः । येन नाप्राप्तन्यायस्य चारितार्थ्यविषयताया उक्तत्वेन नापवादत्वेन एतस्य सिद्धिः ।

अतएव इको झल्[27] – इति सूत्रस्थभाष्येण न विरोधः । तत्र हि 'अज्झन इति'[28] दीर्घेण गुणोत्तरं फलाभावेन अनवकाशत्वाद् गुणे बाधिते दीर्घोत्तरं गुणः स्यात्, दीर्घविधानं तु मिनोतेर्दीर्घे कृते 'सनिमीमा....'[29] इत्यत्र मीग्रहणेन ग्रहणेऽर्थवत्त्वम् । पश्चात् प्राप्तगुणबाधनार्थमिको झल् इति कित्त्वमित्युक्तम् । अन्यथा भाष्यविरोधः स्पष्ट एव स्यात् । अत्रेदं ज्ञेयम् येन नाप्राप्त इत्यत्र येनेत्यस्य यदि स्वेतरेण इत्यर्थस्तदा स्वविषये स्वेतरत् यत् यत् प्राप्नोति तत्सर्वं बाध्यम् विध्यन्त-राप्राप्तविषयाभावात् । एतस्यैव बाध्यसामान्यचिन्तापक्ष इतिव्यवहारात् यत्तु काञ्चनीत्यादौ अपवादमयड्विषयेऽपि अण् भवति । क्वचित् अपवादविषयेऽपि इति न्यायादिति, तन्न, 'अन् कर्मणि च'[30] इति सूत्रस्थभाष्यविरोधात् । तत्र हि अणः पुनर्वचनम् अपवादविषये अनिवृत्यर्थं गोदायो व्रजति इत्याद्युक्तम् । काञ्चनीत्यादौ काञ्चनेन निर्मिता इत्यर्थे शैषिकोऽण् बोध्यः । एवञ्च अनवकाशेन बाधेऽपि क्वचिदपवादविषये उत्सर्गः प्रवर्तते इति वक्तुमशक्यम् । यदि तु येनेत्यस्य लक्षणेनाथवा कार्येण इत्यर्थो वा तदा बाध्यविशेषचिन्ता पक्षः, अनवकाशत्वेन बाधे च एतद्बाधेन सार्थक्यम् उत तद्बाधेनेत्येवं विशेषचिन्ता सम्भवति यद्युदाहरणमस्ति ।

ननु येन कार्येणेत्यत्र पररूपत्वावच्छिन्ने कार्ये आरभ्यमाणाया वृद्धेस्तद् बाधकत्वे निर्णीते किं शास्त्रविहितस्य इत्येवं तद्विशेषचिन्तायामाह–पुरस्तादपवादा इत्यादि । तथाहि 'अव+आ–इहि' इत्यत्र धातूपसर्गयोः कार्यमन्तरङ्गमिति गुणस्यान्तरङ्गत्वात् दीर्घस्य बहिरङ्गत्वात् पूर्वं गुणे कृते

अन्तादिवच्चेति[31] पूर्वान्तवद्भावेन 'एहि' इत्यस्य एकारस्य आङ्त्वात् 'ओमाङोश्चे' ति[32] पररूपे प्राप्ते परादिवद्भावेन 'एत्येधत्यूठ्सु'[33] इति इण् धातुत्वात् वृद्धौ प्राप्तायाम् 'एङ्पिररूपमिति'[34] पररूपस्यापि प्राप्तौ त्रिषु कतमेन भाव्यम् इति 'उपैति' 'उपैधत' इत्यादौ एङिपररूपमित्यस्य अनन्तरविधेः प्राप्तौ, 'एत्येधत्युठ्सु' इत्यस्य पुरस्तादपवादत्वेन तं प्रबाध्य वृद्धौ कृतायां तस्य चारितार्थ्येन अपवादो यद्यन्यत्र चरितार्थः तर्हि परेण बाध्यत इति ओमाङोश्चेति परेण पररूपेण तस्य बाध एवेति 'अवेहि' इत्यादौ वृद्धेरसाधुत्वमेव । अवश्यं स्वपरस्मिन् बाधनीये प्रथमो–पस्थितानन्तरबाधेन चारितार्थ्ये पश्चात् उपस्थितस्य ततः परस्य बाधे मानाभावः। आकाङ्क्षा–निवृत्तेर्विप्रतिषेधशास्त्रबाधे मानाभावाच्च इति एतस्य बीजम् ।

इदानीम् येन नाप्राप्ते यो विधिरारभ्यते स तस्य बाधको भवतीति बाध्यसामान्यचिन्तापक्षे न्यायार्थः प्रकाश्यते– अपवादपदार्थस्य सनिरूपकतया यन्निरूपितापवादभूतं यच्छास्त्रं तत् तस्मात् परान्नित्यादन्तरङ्गादपि बलवत् अपवादत्वादित्यनुमानाकारः । एवं च शास्त्रं स्वीयोद्देश्यता–वच्छेदकव्यापकधर्मावच्छिन्नोद्देश्यताकशास्त्रस्य बाधकम् यथा 'वृद्धिरेची' तिशास्त्रस्योद्देश्यता–वच्छेदकमेजव्यवहितपूर्वत्वविशिष्टात्त्वं तद्व्यापकमजव्यवहितपूर्वत्वविशिष्टात्त्वंतदवच्छिन्नो–द्देश्यताकस्याद्गुण इति शास्त्रस्य वृद्धिरेचीति[35] बाधकम्।

नन्वत्र बाधः कः पदार्थ इत्येतत् विचारणीयम् न तावत् व्यापकधर्माविच्छिन्ने व्याप्यधर्मा–वच्छिन्नत्वभिन्नत्वबोधनं तथा सति अजादेर्द्वितीयस्येतदीयोद्देश्यतावच्छेकमादिभूताच्त्वं व्याप्यं तद्धर्मावच्छिन्नातिरिक्तत्वस्य प्रथमैकाच्त्वघटकाच्त्वस्य व्यापकत्वात्तद्धर्मावच्छिन्ने बोधनं स्यात्तथा सति धातोरादिभूतो योऽच् तद्भिन्नाज्घटितो यः प्रथमैकाच् तस्य द्वित्वमित्यर्थे आटतु–रित्यादौ तथाभूतान् भिन्नाज्घटितत्वाभावात् द्वित्वानापत्तेः ।

न वा यैर्यैर्विशेषणैर्यैर्विशेष्यभूतैः पदार्थैर्विशेषितो व्याप्यो धर्मस्तैस्तैर्विशेषितव्याप्यधर्मा–वच्छिन्नातिरिक्तत्वबोधनं, व्यापकीभूतधर्मावच्छिन्ने सः, तथा सति द्वितीयैकाज्निष्ठपरत्वावधि–भूतत्वविशिष्टं धात्वयवयवादित्वविशिष्टं यदच्त्वं तदवच्छिन्नातिरिक्तस्य धात्ववयवप्रथमै–काच्त्वघटकाच्त्ववतो बोधनेन आटतुरित्यादौ अट्धातुघटकस्याचः तदतिरिक्तसत्वान्नदोषः। उर्णुनावेत्यादौ च द्वितीयैकाच् नु तन्निष्टपरत्वावधित्वस्य धात्ववयवाद्यच्त्वस्य चोकारे सत्वेन तदवच्छिन्नातिरिक्तत्वविरहान्न तद्घटितस्य द्वित्वम् एवञ्चोद्देश्यतावच्छेदकतावच्छेदकसम्बन्धेनैव वृत्तित्वग्रहणेऽपि न दोष इत्यपि युक्तम् –उक्तभाष्यविरोध-तावदवस्थ्यात्।

तथाहि भाष्यं – ञित् णित् तद्धितत्वं तच्च प्रातिपदिकावधिकपरत्वेन विशेषितं कृत्वा प्रातिपदिकावधिकपरत्वविशिष्टञित्णित्तद्धितत्वावच्छिन्नातिरिक्तत्वेन ञित्णित्प्रत्ययत्वावच्छिन्ने संकोचे पाठस्य चारितार्थ्यात् । अत्रोच्यते तत एव भाष्यात् व्याप्यभूतया शाब्दबोधीयविषयतया व्यापकीभूतायाः शाब्दबोधीयविषयतायाः बाधः । शाब्दबोधीया च विषयता शाब्दबोधीयविषयतया प्रकारतया च संकुचिता भवति । ततश्चोपधाभूताज्निष्ठविशेष्यतानिरूपिताव्यवहितपूर्वत्व-सम्बन्धावच्छिन्नप्रकारतारूपोपधावृद्धिसम्बन्धिनी ञिणित्प्रत्ययत्वावच्छिन्नाविषयता अजन्ताङ्–

गनिष्ठविशेष्यतानिरूपिताव्यवहितपूर्वत्वसम्बन्धावच्छिन्नान्त्य-वृद्धिसम्बन्धिनी ञ्णित्प्र-त्ययावच्छिन्ना प्रकारतारूपा या विषयता, प्रातिपदिकनिष्ठविशेष्यतानिरूपिताव्यवहितपूर्वत्वसम्बन्धावच्छिन्नञ्णित्तद्धितत्वाच्छिन्नप्रकारतारूपविषयतायाः न व्यापिका, तदभाववति मरुच्छब्दप्रकृतिक इञि प्रत्यये एतस्यास्सत्त्वात् । तथा च न्यायेन बाधाप्राप्त्या ज्ञापकेन बाधस्साधितः । प्रातिपदिको-त्तरत्वविशिष्टञ्णित्तद्धितत्वापेक्षया अटुपधोत्तरत्वाजन्तोत्तरत्वविशिष्टञ्णित्प्रत्ययत्वस्य मारुतिरित्यत्रव्यभिचारेणाव्यापकत्वात्। इदमेवाभिप्रेत्यानवकाशविषयत्वं विधेयविषय-त्वमेतस्योच्यते।

एतत्पक्षबाधोऽपि विषयतायां व्याप्यविषयताश्रयातिरिक्तवृत्तित्वबोधनम्, तादृशधर्मे तादृशधर्माश्रयातिरिक्तवृत्तित्वबोधनम् । 'इको यणचि' इत्यादौ इक्त्वावच्छिन्नकार्यितया अच्त्वावच्छिन्ननिमित्ततताया बाधोत्प्रेक्षा कैयटस्य न युक्ता । इग्निष्ठविशेष्यतानिरुपिता-व्यवहितपूर्वत्वसम्बन्धाच्त्वावच्छिन्नप्रकारतात्मकनिमित्ततानाक्रान्ते सुधीकारे कार्यिताया अज्निष्ठाव्यवहितपूर्वत्वसम्बन्धावच्छिन्नप्रकारतानिरुपितेक्त्वावच्छिन्न विशेष्यतारूपायास्सत्वेना-व्याप्यत्वात्। नन्वेवमपि नेमौ रहौ कार्यिणौ किन्तु निमित्तौ द्विर्वचनस्येति ग्रन्थेन रत्वावच्छिन्न-निमित्ततया यर्त्वावच्छिन्नकार्यिताया बाधो भाष्योक्तोऽसंगतस्स्यात् । 'यणो मयो द्वे वाच्य' इति शास्त्रीयाया अचो रहाभ्यामिति[36] शास्त्रीयाया अजुत्तरविशिष्टरेफहकारान्यतरोत्तरत्वविशिष्टय-र्त्वावच्छिन्नकार्यितायाश्चाजुत्तरत्वयर्पूर्वत्वविशिष्टरत्वावच्छिन्ननिमित्तत वति हर्यनुभव इत्येतद्घटकरेफे अभावेन अव्यापकत्वात्। केवलमनचितेति शास्त्रीयाया अचः परत्वविशिष्टा-च्पूर्वत्वाभावविशिष्टयर्त्वावच्छिन्नकार्यिताया एव व्यापकतया तस्या स्वाश्रयातिरिक्तवृत्ति-त्वबोधने हर्यनुभवे रेफस्य द्वित्वाभावोपपादनेऽपि मद्र्ह्रदे भद्र्ह्रदे इत्यादौ पररेफस्याचोरहाभ्यामि-त्यनेन घात्रंशे रेफस्य यणोमय इत्यनेनार्हेणेत्यादौ अनचिचेत्यनेन द्वित्त्वापत्तेर्बज्रलेपत्वात् ।

न च बाध्यसामान्यचिन्तया सकलद्वित्त्वकार्यिताबाधकत्वमिति विवरणकारोक्तं युक्तमिति वाच्यम् । एकस्यानेकशास्त्रप्रयोज्यं यत्रानवकाशत्वं तत्रैव बाध्यसामान्यचिन्ताविषयत्वेन विवरणस्य परैः खण्डितत्वात् इति चेदत्रोच्यते अन्योऽयं तक्रकौण्डिन्यन्यायात् माठर-परिवेषणन्यायो येन रत्वावच्छिन्ननिमित्ततया यर्त्वयण्त्वावच्छिन्नकार्यितयोर्बाधस्तेन च व्याप्यधर्मावच्छिन्नविषयतया व्यापकधर्माविच्छन्नविषयताया बाधः । स्वावच्छेदकव्याप्यधर्मावच्छिन्नातिरिक्तवृत्तित्वस्य व्यापकधर्मावच्छिन्नविषयतायां बोधनं च बाधः तथा च रेफातिरिक्तस्यैवयरो द्वित्वम् एतन्न्या-यमादायैव इकोयणचीत्यत्रकार्यितया निमित्तत्वबाधं युक्तमाशंक्य तस्मादित्युत्तरस्येति निर्देशेन समाहितं कैयटेन । किन्तु बाध्यबाधकयोरेकप्रकरणस्थत्वं यत्र तत्रैवायं न्यायः प्रवर्तते । तत्त्वं च यत्किञ्चिदनुगतरूपावच्छिन्नस्य प्रतिपाद्यत्वेन विषयत्वं यस्यामिच्छायां तत्प्रयोज्यकृति-विषयत्वं भवति च वर्णद्वित्वप्रतिपादनविषयकमहेच्छापूर्वकावान्तरेच्छाधीनकृतिगोचरत्वमचोर हाभ्या-मित्यारभ्य दीर्घादाचार्याणामित्येतदन्तसूत्रवार्त्तिकसमूहस्य तद्घटक यर्यण्पदयोर्रेफेतरस्वा-

र्थपरता सूपपादैव । इदञ्च न, एरचिकोयणचीत्यादीनां भिन्नप्रकरणस्थानामिति न तत्रास्य विषय इति।

नन्वाद्गुण इकोयणचीत्यनयोर्बाधकमकः सवर्णे दीर्घः[37] इत्यस्येष्यते । तन्नोपपद्यते, दीर्घशास्त्रीयसवर्णाजव्यवहितपूर्वत्वविशिष्टाक्त्वावच्छिन्नविषयतां प्रत्याद्गुणइत्येतदीयाज–व्यवहितपूर्वत्वविशिष्टत्त्वावच्छिन्नविषयतायाः श्रीश इत्यादौ व्यभिचारेणाव्यापकत्वादज–व्यवहितपूर्वत्वविशिष्टेकृत्वावच्छिन्नविषयतायाश्च दैत्यारिरित्यादौ व्यभिचारेणाव्यापकत्वादिति चेन्न दीर्घीयविषयताधिकरणे तत्तद्विषयतात्वेन तयोरभावेऽप्यन्यतरविषयता नास्तीत्याकारका–भावस्यासत्वेन तदन्यतरत्वस्याभावप्रतियोगितानवच्छेकत्वेन स्वाधिकरणवृत्यभावप्रतियोगिता–नवच्छेकधर्मत्वरूपव्यापकत्वस्योभयत्रसत्वात्।

एवञ्च व्याप्यधर्मावच्छिन्नेन शास्त्रेण व्यापकधर्मावच्छिन्नस्यापवादत्वेन बाध इति, सामान्यशास्त्रस्य विशेषशास्त्रेण बाधः इति महल्लाघवार्थमुत्सर्गशास्त्रेऽपवादशास्त्रस्य विषयता–यास्संकोच एवापवादत्वम् एतन्मूलकमेवापदवादशास्त्रं परित्यज्यैवोत्सर्गः प्रवर्तत इति । अपरम–पवादविषये बहु लेखनीयमस्तीतितिविस्तरभयान्न लिख्यते । क्वचिदपवादविषयेऽप्युत्सर्गोऽभिनिविशते कारणवशादिति तदन्यदेतत् इति ।

सन्दर्भः

1.	अष्टाध्यायी	1.4.2	[अध्याय, पाद, सूत्र]
2.	"	6.1.114	
3.	"	8.3.14	
4.	"	8.2.1	
5.	"	3.4.113	
6.	"	1.2.4	
7.	"	1.1.5	
8.	"	3.1.77	
9.	"	7.3.86	
10.	"	7.1.75	
11.	"	1.1.55	
12.	"	1.1.53	
13.	"	1.2.47	
14.	"	6.1.87	
15.	"	6.1.77	
16.	"	3.1.31	
17.	"	7.2.100	

18.	अष्टाध्यायी	6.4.4
19.	"	5.3.65
20.	"	7.4.9
21.	"	7.2.117
22.	"	3.1.22
23.	"	7.3.116
24.	"	7.2.80
25.	"	7.4.82
26.	"	7.4.60
27.	"	1.2.9
28.	"	6.4.16
29.	"	7.4.54
30.	"	3.3.12
31.	"	6.1.85
32.	"	6.1.95
33.	"	6.1.89
34.	"	6.1.94
35.	"	6.1.88
36.	"	8.4.46
37.	"	6.1.101

IX

बाध्यबाधकभाव रहित अष्टाध्यायी

राजेन्द्र प्रसाद शर्मा

I : प्रस्तावना

इस निबन्ध में हम इस समस्या के समाधान के प्रयास में हैं कि क्या व्याकरणशास्त्र (अष्टाध्यायी) से सभी बाध्यबाधकभावों का निरास किया जा सकता है? अर्थात् बाध्यबाधकभाव मानने के पीछे हमारे प्रमाणभूत आचार्यों की क्या बाध्यता है? क्या केवल उत्सर्ग सूत्रों (बाधक रहितों) से व्याकरण-निर्माण संभव है? इन प्रश्नों के मूल में एक गूढ़तत्त्व अन्तर्निहित है। पाश्चात्य विज्ञान-सिद्धान्त की मूल अवधारणा है कि नियम वह है जिसका अपवाद नहीं हैं, नियम का अगर अपवाद प्राप्त है तो वह नियम वस्तुतः नियम नहीं हो सकता है। जब भी किसी मान्य नियम के अपवाद प्राप्त होते हैं, तब उस नियम को अस्वीकार कर दूसरा परिष्कृत नियम स्वीकृत किया जाता है, किन्तु भारतीय सैद्धान्तिक संस्कृति में स्थूल रूप में ही प्रत्येक नियम के साथ उसके अपवाद नियम अथवा उसकी संभावना का होना तथा अपवाद को सामान्य के क्षेत्र में भी अनिवार्य मानते हुए उसे बलवत्ता देना इत्यादि दृष्टिगत होता है। प्राच्य एवं पाश्चात्य सैद्धान्तिक संस्कृति में यह मूल भेद नियमों की संरचना के सन्दर्भ में दृष्टिगोचर है।

अपवाद नियमों की स्वीकृति के पीछे एक निश्चित तार्किक आधार को प्राप्त कर ही भारतीय-शास्त्र-निर्माता आचार्यों ने इसे निर्माण-प्रक्रिया में मूर्धन्य स्थान पर अभिषिक्त किया है। पाश्चात्य विज्ञान-सिद्धान्त में अद्यावधि सार्वभौम नियम को ही मान्यता प्राप्त है, पर अपवाद को कोई स्थान प्राप्त नहीं है, जबकि भारत में पाणिनि (600 ई. पू.) से पूर्व ही अपवाद को विशेष-नियम मानकर व्याडि आदि आचार्यों ने इसके बिना भाषा-व्याकरण-निर्माण को ही असंभव सिद्ध कर दिया था। उस समय भी सार्वभौम नियमों से ही व्याकरण संभव है, यह मत वाजप्यायन आदि आचार्यों के द्वारा प्रतिपादित हुआ, पर व्याडि के द्वारा प्रस्तुत तार्किक आधार पर अपवाद या विशेष नियम शास्त्र-संरचना में अनिवार्य रूप में स्वीकृत हो गये। इस भारतीय दृष्टिकोण की अवधारणा का तार्किक पक्ष प्रस्तुत करना निबन्ध का ध्येय है।

भारतीय-सिद्धान्त-विज्ञान के अनुसार नियमों में उत्सर्गापवादरूप द्वैविध्य है। उत्सर्ग सूत्र तथा अपवाद सूत्र का सम्बन्ध सिद्धान्तों की कालसापेक्षता पर आधारित है। यह आवश्यक नहीं है कि प्रत्येक सूत्र के साथ अपवाद भी उपलब्ध रहे, पर अनवरत प्रवाहमान काल-चक्र में उसके

उपलब्ध होने की संभावना का प्रतिकार नहीं किया जा सकता है। भाषाशास्त्रीय सिद्धान्तों में बहुतायत से उपलब्ध अपवाद सूत्र सिद्धान्तों की कालसापेक्षता का पुष्ट प्रमाण प्रस्तुत करते हैं।

सिद्धान्तों की कालसापेक्षता के संदर्भ में भी यह विचारणीय है कि वास्तव में भारतीय शास्त्रीय सिद्धान्तों में ही अपवाद की सत्ता स्वीकृत क्यों है? क्यों नहीं वाजप्यायन- प्रणीत केवल सार्वभौम नियम (उत्सर्ग सूत्र) अथवा पाश्चात्य-विज्ञान सिद्धान्तों के अनुरूप कालनिरपेक्ष उत्सर्ग सूत्रों (अपवाद रहित) से ही व्याकरणादि शास्त्रों का व्यवहार संभव हो? पर यहां विचारणीय है कि महर्षि पाणिनि जैसे सुमेधा मनीषी के द्वारा दोनों तरह के सूत्र को शास्त्र-प्रक्रिया में समान रूप से स्थान देना, इन की वैज्ञानिकता को पुष्ट प्रमाण प्रदान करता है । महर्षि पाणिनि के सूत्र सार्वभौम भी हैं एवं विशेष या अपवाद के रूप में भी हैं। इन दोनों के वैज्ञानिक आधार को पतञ्जलि ने महाभाष्य में स्पष्ट किया है। वहां इसे शास्त्रीय भाषा में जातिवाद एवं व्यक्तिवाद के रूप में कहा गया है। जाति एवं व्यक्तिवाद के आधार पर ही उत्सर्गापवाद का स्वरूप आविर्भूत हुआ है। अतः इस आधार को अनावृत करने हेतु अपवादों का विशेष अध्ययन आवश्यक है। यद्यपि महाभाष्य में सामान्य रूप में कहा गया है कि अपवाद लाघवार्थ हैं, पर क्या वास्तव में ऐसी ही स्थिति है? अगर अपवाद मात्र लाघवार्थ ही हैं, तब इनका कोई विशेष तार्किक महत्त्व नहीं है, परन्तु वहां जातिवाद एवं व्यक्तिवाद में से किसी एक का परित्याग असम्भव माना गया है। अतः क्या अपवाद (व्यक्तिवाद) विहीन व्याकरण-निर्माण सम्भव है? यह प्रश्न भी उत्थित होता है। यहां इस सम्भावना को भी बल मिलता है कि अपवाद केवल लाघवार्थ नहीं है। अतः अपवाद के अध्ययन की विशेष आवश्यकता है। उत्सर्ग एवं अपवाद को ही शास्त्र-भाषा में बाध्य-बाधक कहा जाता है। अतः हम यहाँ यह विचार करना चाहेंगें कि क्या केवल एक तरह के सूत्रों से ही शास्त्र-निर्माण सम्भव है, जिससे द्विविध सूत्र न बनाने पड़े। हमारा जो प्रामाणिक व्याकरण ग्रन्थ अष्टाध्यायी है, उसमें विद्यमान अपवाद सूत्रों के उत्सर्ग के रूप में परिवर्तित कर देने पर क्या व्याकरण-शास्त्र पाश्चात्य-विज्ञान-नियमानुसार बन सकता है? क्या उसमें से बाध्य-बाधकता-भाव की समाप्ति की जा सकती है? इन सब तथ्यों पर यहाँ विचार आवश्यक है। अगर बाध्य-बाधक-भाव को हम हटा नहीं सकते तो पाश्चात्य विज्ञान के समक्ष हम एक भारतीय आर्ष संस्कृति का नूतन वैज्ञानिक तथ्य रख सकेंगे।

II : बाध्यबाधकताभाव का परिचय

महर्षि पाणिनि-रचित अष्टाध्यायी के अध्येता इस बात से सुपरिचित हैं कि सम्पूर्ण व्याकरणशास्त्र के सूत्रों में परस्पर बाध्यबाधकभाव विद्यमान है। अष्टाध्यायी में सूत्र अपने विशेष बल के द्वारा अन्य सूत्र को बाध लेता है, जिसका बाध होता है, उसे उत्सर्ग, बाध्य, व्यापक या सामान्य सूत्र कहते हैं। जो सूत्र उत्सर्ग को बाध कर चरितार्थ हो, वह अपवाद, बाधक, व्याप्य या विशेष सूत्र कहलाता है। यहां जानने योग्य बात यह है कि दोनों सूत्र एकत्र कार्य करने में समान रूप से तत्पर होने पर भी विशेष बल के द्वारा विशेष सूत्र सामान्य सूत्र के कार्य क्षेत्र से हटा कर स्वयं प्रवृत्त हो जाता है। विशेष बल को शास्त्रकार ने कई तरह से परिभाषित किया है। जिस सूत्र

का प्रयोग-क्षेत्र समान रूप से उपस्थित सूत्रों में अल्प हो, या वह सूत्र जो बाद का हो या जो नित्य हो, या जो अंतरंग हो या असिद्ध में जो पर हो, वह बलवान् होता है। इस बलवत्ता का संकेत पाणिनि के निम्न सूत्रों में अंकित है।

(क) 'विप्रतिषेधे परं कार्यम्' [अष्टा. 1.4.2]
(ख) 'षत्वतुकोरसिद्धः' [अष्टा. 6.1.84]
(ग) 'असिद्दवदत्राभात्' [अष्टा 6.4.22]
(घ) 'पूर्वत्रासिद्धम्' [अष्टा 8.2.1] इत्यादि।

इसी बलवत्ता को स्पष्ट करते हुए नागेश भट्ट कहते हैं :-
(ङ) 'पूर्वपरनित्यान्तरंगापवादानामुत्तरोत्तरं बलीयः' [परिभाषेन्दुशेखर, 38]

इन सब परिभाषाओं के आधार पर शास्त्रों में दो सूत्रों की सह प्रसक्ति उपलब्ध होने पर पूर्व, पर, नित्य, अन्तरंग, अपवाद एवं असिद्ध आदि के पारिभाषिक नियमों के आधार पर एक सूत्र की बलवत्ता को निश्चित कर अपर की बलहीनता के कारण कार्य क्षेत्र से हटा कर बलवान् नियम को चरितार्थ करना पड़ता है। यहां सामान्य (बाध्य) सूत्र घटित नहीं होता है, केवल बाधक (विशेष) सूत्र ही चरितार्थ होता है। सूत्र के विशेष बल निर्णय के जो पाणिनीय सिद्धान्त है, उनसे एक सूत्र अपर सूत्र से बलवान् सिद्ध होने पर भी अग्रिम सूत्र से बलहीन सिद्ध हो सकता है। अतः कभी सूत्र किसी प्रयोग की दृष्टि से अपवाद सिद्ध होता है, वही सूत्र अन्य प्रयोग की दृष्टि से उत्सर्ग भी सिद्ध होता है। सूत्रों की इस बाध्यबाधकता को शास्त्र में, नित्य, पर, असिद्धादि विभिन्न रूपों में प्रदर्शित किया गया है। पर मुख्यतः बाध्यबाधकता उत्सर्ग एवं अपवाद के रूप में प्रसिद्ध है।

III : व्याकरणशास्त्र में सूत्र शैली तथा उत्सर्गापवाद का उद्‌गम

महर्षि पाणिनि रचित अष्टाध्यायी ग्रन्थरत्न सूत्रात्मक है। बिना सूत्रों के (लक्षणों के) व्याकरण-शास्त्र-प्रक्रिया का निर्माण संभव नहीं है, ऐसी अवगति बृहस्पति एवं इन्द्र के द्वारा 'शब्द संकलन पद्धति' के द्वारा व्याकरण-शास्त्र के निर्माण के प्रयास के असफल सिद्ध होने पर, पाणिनि आदि आद्य व्याकरण-शास्त्र-निर्माता आचार्यों को हुई, अतएव उन्होंने सूत्र शैली से ही शास्त्र-निर्माण को उपयुक्त माना। शब्द-संकलन-पद्धति भाषा के उपलब्ध अनन्त शब्द एवं अनन्त वाक्यों के कारण हजारों वर्षों के अतिविस्तृत संकलन के पश्चात् भी पूर्णता को प्राप्त नहीं हुई।[1] तब महर्षि पाणिनि आदि प्राचीन आचार्यों ने विचार किया कि लक्षणों या सूत्रों के द्वारा शास्त्र निर्माण हो तो शास्त्र का आकार लघु होने पर वह सर्वजनग्राह्य होगा।[2] लघुता के लक्ष्य को केन्द्र में रखते हुए लक्ष्यानुरूप लघुलक्षणों (सूत्रों) की रचना की गई। यह बात पतञ्जलि के 'लक्ष्यलक्षणे व्याकरणम्' [महाभाष्य 1.1.1] कथन से सुस्पष्ट है। अष्टाध्यायी के सूत्र कार्य की दृष्टि से षड्विध हैं - संज्ञासूत्र 279, परिभाषा सूत्र 36, विधिसूत्र 3296, नियमसूत्र 217, अतिदेश सूत्र 118, तथा अधिकार सूत्र 47: कुल सूत्र 3993।

इन सूत्रों में मुख्य भूमिका विधि सूत्रों की है, शेष पाँच तरह के सूत्र तो विधि सूत्र की सहायता मात्र करते हैं। विधि सूत्र का विभाजन दो प्रकार का है, उत्सर्ग एवं अपवाद। पतञ्जलि ने इन्हें सामान्य एवं विशेष के नाम से भी अभिहित किया है। व्याकरण शास्त्र में मुख्य स्थान प्राप्त करने वाली इस पद्धति की प्रशंसा में वे कहते हैं -''जिस अल्प यत्न से महान् से महान् शब्द राशियों का नियमन किया जा सके, अर्थात कुछ ही परिमित सूत्रों से अनन्त एवं अपरिमित शब्द समूह का व्याकरणिक-विश्लेषण प्रस्तुत किया जा सके, उसी मार्ग का हमें शास्त्र के लिए आश्रयण करना चाहिए, वह मार्ग है कुछ सामान्य एवं कुछ विशेष सूत्रों का निर्माण''।[3]

मैं समझता हूँ कि भारतीय वैयाकरणों का यही अमोघ-ब्रह्मास्त्र है, जिससे लघ्वाकार व्याकरण-निर्माण का उनका स्वप्न साकार हुआ है। यहाँ ऐतिहासिक दृष्टिकोण से विचार करने पर प्रतीत होता है कि इन्द्र और बृहस्पति ने प्रत्येक शब्द का 'प्रतिपदपाठ' किया था। अतः सिद्ध है कि प्रत्येक शब्द को अपनी-अपनी विशेषताओं के कारण पृथक्-पृथक् ग्रहण करना, उन्होंने उचित समझा था। शब्द के केवल व्यक्तिपक्ष में आनन्त्यादि दोष की प्राप्ति होती है। इस दोष के कारण अनन्त साधु शब्दों तथा वाक्यों का परिगणन, अनन्तता के कारण पूर्णता को प्राप्त नहीं हुआ, अतः सिद्ध हो गया कि शब्द का केवल व्यक्ति-पक्ष माननेपर व्याकरण-निर्माण संभव नहीं है। केवल विशेषताओं (अपवादों) के अध्ययन के आधार पर व्याकरण के निर्माण की भावना का उद्गम, इस इन्द्र तथा बृहस्पति के प्रयास में दृष्टिगत होता है। इस प्रथम प्रयास के पश्चात् शब्दों की समानता पर वैयाकरणों का ध्यान गया। आकृति या जाति को समानता के आधार पर खोजा गया, पर केवल जातिवाद से भी पूर्ण व्याकरण-निर्माण संभव नहीं हुआ।

IV : उत्सर्गापवाद का मूलाधार—जाति एवं व्यक्ति

इस तरह भाषातत्त्वचिन्तकों के गंभीर चिन्तन के फलस्वरूप व्याकरण-शास्त्र-निर्माण के लिये दो वाद प्राप्त हुए, जाति (आकृति) एवं व्यक्ति (द्रव्य) अथवा व्याकरण की भाषा में सामान्य एवं विशेष। प्रारम्भ में दोनों पक्षों से व्याकरण-निर्माण का प्रयास किया गया पर कोई भी सम्पूर्ण सफल नहीं हुआ। केवल सामान्य सूत्रों से भी व्याकरण संभव नहीं है। इसी प्रकार केवल विशेष सूत्रों से भी व्याकरण असंभव है।

चूंकि इस निबन्ध का ध्येय है कि बाध्यबाधकभाव की समाप्ति के उपाय का अन्वेषण अथवा दूसरे शब्दों में अपवाद का कार्य उत्सर्ग सूत्र के माध्यम से घटित करना, जिससे शास्त्र केवल उत्सर्गसूत्रात्मक बनें। हमारा जो ध्येय है, वैसा ही लक्ष्य आचार्य वाजप्यायन का भी था। आचार्य वाजप्यायन के सामने जो समस्यायें आई थी, अगर हम उनका निराकरण कर सकें तभी वाजप्यायन के जातिवाद को सिद्ध कर सकेंगे। वस्तुतः उत्सर्गापवाद का मूलाधार जाति एवं व्यक्तिवाद है।

यद्यपि वाजप्यायन प्रणीत ग्रन्थ अब उपलब्ध नहीं है, फिर भी पतञ्जलि ने अपने ग्रन्थ में उनके तर्कों को प्रस्तुत किया है, जिन पर विचार आवश्यक है। जातिवाद के तार्किक आधार हेतु निम्नलिखित वार्त्तिकों [1.2.64 वा. 36-42] का उल्लेख महाभाष्य में प्राप्त है।

1. 'आकृत्यभिधानाद्वैकं विभक्तो वाजप्यायनः'—आकृति का कथन होने से विभक्ति परे एक शब्द को वाजप्यायन आचार्य मानते हैं अर्थात् शब्द से एक आकृति का ही कथन होता है।

2. 'प्रख्याऽविशेषात्'—विशेष ज्ञान के न होने से, अर्थात् गो शब्द का उच्चारण होने पर सामान्य गो का ही बोध होता है, शुक्ला, नीला, कपिला, कपोतिका आदि विशेष गो का नहीं।

3. 'अव्यपवर्गगतेश्च'—अव्यपवर्ग का भाव है अभेद, अविच्छेद, उसकी प्रतीति को अव्यपवर्गगति कहते हैं, अर्थात् गौः कहने से व्यपवर्ग शुक्ल नील पीत आदि भेद का भान नहीं होता है।

4. 'ज्ञायते चैकोपदिष्टम्'—एक के उपदिष्ट होने पर सब जानी जाती है, अर्थात् गाय को न जानने वाले किसी को गौ का उपदेश दिखलाकर कर दिया जाता है। वह उस प्राणी को अन्य स्थान में अन्य काल में अन्य अवस्था में देखकर जान लेता है यह गौ है।

5. 'धर्मशास्त्रं च तथा'—उसी प्रकार जाति को मानकर धर्मशास्त्र प्रवृत्त होता है, अर्थात् 'ब्राह्मण को नहीं मारना चाहिए', 'सुरा नहीं पीनी चाहिए'। इसका तात्पर्य माना जाता है, ब्राह्मण मात्र को नहीं मारना चाहिए, सुरा मात्र नहीं पीनी चाहिए। यदि द्रव्य को पदार्थ माना जाये तो एक ब्राह्मण को न मारकर और एक सुरा न पीकर अन्यत्र यथेष्टता हो सकती है।

6. 'अस्ति चैकमनेकाधिकरणस्थं युगपत्'—एक जाति अनेक स्थानों पर एक साथ उपलब्ध होती है, सूर्य की तरह।

7. 'इतीन्द्रवद्विषयः'—यदि कोई शंका करे कि एक पुरुष सूर्य को एक समय में एक ही स्थान पर देख सकता है, अनेक स्थानों पर नहीं, तो कहा जा सकता है कि जिस प्रकार सैकड़ों यज्ञों में आहूत इन्द्र युगपत् ही सब जगह उपस्थित होता है। इसी तरह आकृति भी युगपत् सर्वत्र होती है।

सामान्य या जाति के पक्ष में उपर्युक्त युक्तियाँ प्राप्त हैं। इनमें 'प्रख्याविशेषात्' वार्त्तिक का 'ज्ञायते चैकोपदिष्टम्' एवं 'अव्यपवर्गगतेश्च' का 'धर्मशास्त्रं च तथा' वार्त्तिक उपोद्बलक है। इस मत की प्रस्तुति के पश्चात् पतञ्जलि ने महाभाष्य में [1.2.64 वार्त्तिक 46-53] आचार्य व्याडि के व्यक्ति-सिद्धान्त के साधक तर्कों को उपस्थापित किया है।

1. 'द्रव्याभिधानं व्याडिः'–शब्द से विशेष अर्थात् द्रव्य का कथन होता है, अर्थात् शब्द व्यक्ति का बोध कराता है व्याडि के अनुसार।

2. 'तथा च लिंगवचनसिद्धिः'–शब्द व्यक्ति को बताता है, इसी कारण लिंग तथा वचन का व्यवहार घटित होता है, जैसे–ब्राह्मणी, ब्राह्मणः एवं ब्राह्मणौ ब्राह्मणाः आदि।

3. 'चोदनासु च तस्यारम्भात्'–क्रियाओं का एकमात्र स्वाभाविक एवं आभ्यन्तर सम्बन्ध द्रव्य के साथ होता है । 'गाय लाओ' कहने पर जाति का आनयन न होकर व्यक्ति का ही आनयन होता है।

4. 'न चैकमनेकाधिकरणस्थं युगपत्'–जिस प्रकार देवदत्त एक ही समय में स्रुघ्न और मथुरा में उपस्थित नहीं हो सकता, उसी प्रकार एक ही पदार्थ की एक समय पर अनेक आश्रयों (अधिकरणों) में कल्पना नहीं की जा सकती, अर्थात् एक ही जाति एक ही समय पर अनेक द्रव्यों और व्यक्ति में प्राप्त नहीं होती है।

5. 'विनाशे प्रादुर्भावे च सर्वं तथा स्यात्'–शब्द का अर्थ जाति मानने पर 'अश्वः मृतः' कहने पर सभी अश्व का मरना मानना पड़ेगा, 'गौर्जातः' कहने पर सम्पूर्ण लोक गोरूप से भर जायेगा। अर्थात् एक अश्व के विनाश पर अश्व नाम संसार से मिट जाता।

6. 'अस्ति न वैरूप्यम्'–इसके अतिरिक्त वैरूप्य भी है। एक तरह की गायों में कोई खण्डा कोई मुण्डा कहलाती है।

7. 'तथा च विग्रहः'–और इसी कारण विग्रह का प्रयोग होता है गौश्च गौश्च, गावौ।

8. 'व्यर्थेषु च मुक्तसंशयम्'–और विभिन्न अर्थ वालों में मुक्त संशय अर्थात् एक शेष का अंगीकरण होता है। आकृति को पदार्थ मानने पर भी भिन्नार्थकों का एक शेष कहना चाहिए। अक्षा : माषा : पादाः आदि में।

जातिवाद के पक्ष में उपस्थापित तर्कों का विरोध प्रायः किसी भी समुदाय ने नहीं किया है, व्याडि के व्यक्तिवाद के खण्डन का बहुत प्रयास हुआ पर इसके तार्किक आधार अस्वीकार करना सम्भव नहीं है। व्यक्तिवाद के समर्थन में उपस्थापित तर्कों का समाधान केवल जाति-पक्ष से सम्भव नहीं है। सभी आचार्यों ने इसको जाति की अपेक्षा स्थान देकर अंगीकार किया है। व्याडि के तर्कों के समाधानार्थ पतञ्जलि ने आकृतिवादियों के पक्ष से निम्नलिखित वार्त्तिक [54-65] प्रस्तुत किये हैं :-

1. 'लिंगवचनसिद्धिर्गुणस्यानित्यत्वात्'–लिंग वचनों की सिद्धि होती है, गुणों के अनित्य होने से। आकृति में गुणों को अनित्य मानकर वचन तथा लिंग का योग सम्पन्न किया जा सकता है।

2. लिंगवचनसिद्धिर्गुणविवक्षानित्यत्वात्' –लिंग वचनों की सिद्धि होती है–गुणों के अनित्य होने से । विवक्षा से आकृति में कभी एक वचन, कभी द्विवचन, बहुवचन, स्त्रीलिंग, पुल्लिंग तथा नपुंसकलिंग का प्रयोग हो सकता है।

3. 'गुणवचनवद् वा' –अथवा गुणवचन अर्थात् विशेषण शब्दों के समान लिंग वचन हो जायेंगे। आकृति के आश्रित द्रव्य के लिंग वचन उस आकृति शब्द के होंगें।

4. 'अधिकरणगतिः साहचर्यात्' –अधिकरण का ज्ञान साहचर्य से होगा, आकृति में आरम्भण आदिकार्य सम्भव नहीं है। इसलिए आकृति-सहचरित द्रव्य में आरम्भण आदि कार्य होंगें।

5. 'न चैकमनेकाधिकरणस्थं युगपदित्यादित्यवद्विषयः' –एक अनेक अधिकरणों में वर्तमान युगपत् उपलब्ध नहीं होता है इसे आदित्य के समान जानना चाहिए।

6. 'इतीन्द्रवद्विषयः' –यज्ञों में आहूत इन्द्र युगपत् सर्वत्र उपस्थित होता है।

7. 'अविनाशो नैकात्म्यात्' –द्रव्य के विनाश होने पर आकृति का विनाश नहीं होता, अनेकात्म्य होने से । आकृति और द्रव्य की अनेक आत्मा होती है। जैसे अनेक वृक्ष पर आश्रित लता एक वृक्ष के काटने पर नष्ट नहीं होते हैं।

8. 'वैरूप्यविग्रहो द्रव्यभेदात्' –विरूपता तथा विग्रह भी द्रव्य के भेद से होती है।

9. 'व्यर्थेषु च सामान्यात् सिद्धम्' –विभिन्न अर्थ वाले शब्द में सामान्य से एक शेष सिद्ध हो जायेगा। सब अर्थो में 'अशूङ् व्याप्तौ' से ही अक्ष, 'पद गतौ' से ही पाद और 'माङ् माने' से ही माष शब्द सिद्ध होता है।

यहाँ विचारणीय है व्यक्तिवाद तथा जातिवाद दोनों पक्षों पर विचार करने से निर्णय होता है कि एक का भी अनंगीकार सम्भव नहीं है। व्यक्तिवाद के पक्ष में लिंग तथा वचन का प्रयोग किया जाता है, जिसका निराकरण आकृति के द्रव्याश्रित मानने के अतिरिक्त सम्भव नहीं है। इस तरह वक्ता के द्वारा प्रयुक्त शब्द क्रिया योग के लिए व्यक्ति पक्ष पर आश्रित होता है। आकृति द्रव्य पर उसी प्रकार आश्रित है, जैसे लता वृक्ष पर । इस उदाहरण से भी व्यक्ति पक्ष की स्पष्ट स्वीकृति प्राप्त होती है। जाति की स्वीकृति में तो कोई विवाद ही नहीं है।

इन दोनों पक्षों पर विचार करते हुए भाष्यकार ने निर्णय देते हुए कहा कि जाति एवं व्यक्ति में किसी का भी खण्डन नहीं हो सकता है। विवाद केवल मुख्यता को लेकर ही हो सकता है। जैसे हम विद्यालय में कहें कि 'छात्र पढ़ रहे हैं' तब छात्र जाति अर्थ को बताता है। मार्ग में कहे कि 'छात्र आ रहा है' तब उसी शब्द का अर्थ व्यक्तिपरक होगा। इस तथ्य को जानकर ही पाणिनि

ने सामान्य एवं विशेष अर्थात् उत्सर्ग एवं अपवाद सूत्रों का निर्माण किया है। इन दोनों की स्वीकृति में पतञ्जलि के निम्न वचन प्रमाण हैं-

1. 'न हि आकृतिपदार्थकस्य द्रव्यं न पदार्थः, द्रव्यपदार्थकस्य वाकृतिर्न पदार्थः । उभयोरूभयं पदार्थः । कस्यचित्तु किञ्चित् प्रधानभूतं, किञ्चित् गुणभूतम्' [महाभाष्य 1.2.64 वा. 57]–आकृति को पदार्थ मानने वाले के मत में द्रव्य पदार्थ नहीं है– ऐसी बात नहीं है, अथवा द्रव्य पदार्थवाद के मत में आकृति पदार्थ नही है– ऐसी बात नही है। दोनों के मत में दोनों पदार्थ हैं, किसी के मत में कोई प्रधानभूत है और कोई गुणभूत ।

2. 'किं पुनराकृतिः पदार्थ आहोस्विद् द्रव्यम् । उभयमित्याह। उभयथा ह्याचार्येण सूत्राणि पठितानि आकृतिं पदार्थं मत्वा जात्याख्यायामेकस्मिन्बहुवचनमन्यतरस्याम् [अष्टा. 1.2.58] इत्युच्यते। द्रव्यं पदार्थं मत्वा सरूपाणाम् [अष्टा. 1.2.64] इत्येकशेष आरभ्यते' [महाभाष्य 1.1.1]– क्या पद का अर्थ जाति अथवा द्रव्य है? या दोनों है। यह कैसे जाना गया। दोनों अर्थों को मानकर आचार्य पाणिनि ने सूत्र पढ़े हैं। पद का अर्थ जाति है ऐसा स्वीकार कर 'जात्याख्याम्.' सूत्र पढ़ा है। द्रव्य पदार्थ है ऐसा स्वीकार कर 'सरूपाणाम्' इत्यादि से एक शेष प्रारम्भ किया है।

उत्सर्गापवाद के सिद्धान्त का अन्वेषण सामान्य (जाति) एवं विशेष (द्रव्य, व्यक्ति) पर आधारित है। इनमें एक पक्ष का आश्रय लेने पर व्याकरण-निर्माण सम्भव नहीं है। अतः अपवाद को कभी उत्सर्ग के माध्यम से कहा नहीं जा सकता है। जाति शब्द का अर्थ जाति मानने पर व्यवहार के अनुरोध से व्यक्ति अर्थ भी सिद्ध होता है। उसी तरह नियमों को सामान्य पर आधारित उत्सर्ग विधि से बनाने पर भी कुछ विशेष प्रयोग की दृष्टि से अपवाद विधि को मानना पड़ता है। सामान्य के आधार पर सूत्र निर्माण होने पर भी कुछ क्षेत्र ऐसे रहते हैं जहाँ सामान्य नहीं है, तब वहाँ विशेष नियमों का निर्माण आवश्यक हो जाता है। सामान्य या जाति स्वाभाविक धर्म है, पर व्यक्ति विरूप आदि के कारण सामान्य में भेद को बताता है। जैसे एक गो शब्द से गो जाति का बोध होता है पर व्यवहार के लिए प्रत्येक गो को गो जाति से पृथक् करना आवश्यक है। जब हम विशेषण द्वारा व्यक्ति गो को गो जाति से पृथक् करते हैं, जैसे खण्डा गो, मुण्डा गो आदि, तब अर्थ व्यक्ति होगा। हमारा ऐन्द्रिय बोध तथा व्यवहार व्यक्ति पर आधारित है। अतः अपवाद एक अनिवार्यता है, जिसका परिहार सम्भव नहीं है।

वस्तुतः गो पदार्थ का जब हम प्रत्यक्ष करते हैं तब युगपत् जाति, द्रव्य, गुण एवं क्रिया की प्रतीति होती है। इस ऐन्द्रिय बोध को जब हम शब्द के माध्यम से प्रकट करते हैं तब यह प्रश्न उठना स्वाभाविक है कि वक्ता इन चारों अर्थ में किसको कहना चाहते हैं, तब विवक्षा के कारण एक अर्थ स्वीकार किया जाता है। पतञ्जलि ने इस बात को उदाहरण से स्पष्ट किया है-

''जातिशब्देन द्रव्याभिधानम्। कथं पुनर्ज्ञायते जातिशब्देन द्रव्यमप्यभिधीयते इति? एवं हि कश्चिन्महति गोमण्डले गोपालकमासीनं पृच्छति - 'अस्त्यत्र कञ्चिद् गां पश्यसि' इति। स पश्यति 'पश्यति चायं गाः, पृच्छति च, कञ्चिदत्र गां पश्यसि इति । नूनमस्य द्रव्यं विवक्षितम् इति । तद्यदा द्रव्याभिधानं तदा बहुवचनं भविष्यति । यदा सामान्याभिधानं तदैकवचनं भविष्यति'।

जातिवाचक शब्द से द्रव्य का भी बोध होता है। गायों के बड़े झुंड में बैठे हुए ग्वाले से कोई पूछता है कि किसी गाय को देख रहे हो ? ग्वाला सोचता है कि यह आंख से गायों को देख रहा है और पूछ रहा है कि क्या किसी गाय को देख रहे हो। अतः ज्ञात होता है कि यह किसी विशेष गाय को लक्ष्य में रखकर कह रहा है। अतः भाषा के क्षेत्र में विवक्षा के कारण प्रयोगों में द्वैविध्य प्राप्त है, कुछ प्रयोग तो जाति के आधार पर नियमित होते हैं, कुछ व्यक्ति के आधार पर होते हैं । अतः द्विविध नियम उत्सर्गापवाद का प्रणयन तर्क-सम्मत है। उत्सर्गापवाद का सम्बन्ध जाति एवं व्यक्ति की तरह है। आकृति और द्रव्य, जाति और व्यक्ति कभी पृथक् नहीं किये जा सकते हैं। इनके अभिन्न सम्बन्ध के बारे में पतञ्जलि ने स्पष्ट लिखा है - 'अव्यतिरेकाद् द्रव्याकृत्योः' [महा. 2.1.50], द्रव्य और आकृति का व्यतिरेक (पार्थक्य) न होने से। यहाँ भर्तृहरि ने उत्सर्गापवाद के लिये जातिव्यक्तिवाद को आधार माना है–

''पाणिनेः सर्वत्राकृतेर्भावात् सकृद्गतविप्रतिषेधबाधनं शब्दान्तरप्राप्तिश्च नोपपद्यते । अथ द्रव्यमेव पदार्थः एवमपि सर्वासां व्यक्तीनां सर्वाभिश्चोदनाभिरंगीकरणात् उत्सर्गापवादौ प्रकल्पेते।''[5]

इस भर्तृहरिमत के अनुसार यदि आकृतिवाद पक्ष को माना जायेगा, तब शास्त्र में विप्रतिषेध-बाध और शब्दान्त की उपपत्ति सम्भव नहीं है। यदि व्यक्तिवाद पक्ष माना जाएगा, तब उत्सर्ग और अपवाद व्यर्थ सिद्ध होंगे। शब्द के जाति और व्यक्ति ये दो अर्थ लक्ष्यानुरोध से होते हैं। अतः जातिपदार्थपक्ष में जाति शब्द का अर्थ होने पर भी गुणभूत रूप में व्यक्ति की प्रतीति स्वीकार करनी होगी। जाति के स्थानित्व, आदेशत्व, पदत्व अव्यवहितत्व आदि धर्म व्यक्ति के द्वारा ही शब्द संस्कार पक्ष में उपयोगी होते हैं। जैसे– 'यरोऽनुनासिकेऽनुनासिको वा' [अष्टा 8.4.45] सूत्र लक्षण जातिमती व्यक्ति में ही प्रवृत्त होते हैं। अतएव कैयट ने 'स्वं रूपं शब्दस्याशब्दसंज्ञा [अष्टा. 1.1.68] में रूप शब्द का अर्थ सामान्य एवं व्यक्ति दोनों प्रतिपादित किया है। दोनों अर्थ मानने में कोई भेद नहीं है क्योंकि व्यक्ति सामान्य से युक्त रूप में ही है तथा सामान्य व्यक्ति के आश्रय से ही प्रतिष्ठित होता है।

पतञ्जलि के अनुसार चार शब्दार्थ हैं : 'गौरित्यत्र कः शब्दः' प्रश्न के समाधान में महाभाष्य[6] में गौ के चार अर्थ - द्रव्य, गुण, क्रिया एवं आकृति को सिद्ध किया गया है-

1. यत् सास्नालांगूलककूदखुरविषाण्यर्थरूपं, तत् नाम द्रव्यम् ।
   –जो गलकम्बल पूंछ, कुहान, खुर सींग वाला पदार्थ है, वह द्रव्य है।

2. यत् तदिगितं चेष्टितं निमिषितम्, सा नाम क्रिया ।
—जो संकेत करना, चेष्टा तथा आंख का झपकना आदि है, वह क्रिया है।

3. यत् तच्छुक्लो नीलः कपिलः कपोतः, स नाम गुणः ।
—जो शुक्ल नील कपिल कपोत है, वह गुण है।

4. यत् तद्भिन्नेष्वभिन्नं छिन्नेष्वच्छिन्नं सामान्यभूतं, सा नाम आकृतिः।
—जो भिन्न भिन्न पदार्थों में एक रूप है। जो नष्ट होने पर भी नष्ट नहीं होता, सब में साधारणानुगतं है, वह आकृति है। आकृति एवं जाति व्याकरण में पर्याय शब्द हैं।

जब हम गाय को देखते हैं तब हमें एक साथ इन चारों अर्थों की प्रतीति होती है। द्रव्य सबका आश्रय है। गो द्रव्य में गोत्व, शुक्लत्व तथा क्रियामत्ता है। हम गोत्व को गो व्यक्ति से पृथक् नहीं निकाल सकते। इसी तरह आकृति या जाति से द्रव्य को नहीं निकाल सकते हैं। जैसे आकृति रहित स्वर्ण द्रव्य की कल्पना नहीं हो सकती है। अतः इनका सम्बन्ध समवाय है, संयोग नहीं । अतः शब्द के दोनों अर्थ सामान्य एवं विशेष सत्य हैं। इनका अपलाप कोई भी भाषातत्त्वविद् नहीं कर सकता है। प्रधान या नान्तरीयक दोनों हो सकते हैं, यही आशय भर्तृहरि ने भी स्पष्ट किया है—

1. स्वं रूपमिति कैश्चित्तु व्यक्तिसंज्ञोपदिश्यते ।
जातेः कार्याणि संसृष्टा जातिस्तु प्रतिपद्यते ।।
संज्ञिनीं व्यक्तिमिच्छन्ति, सूत्रे ग्राह्यामथापरे ।
जातिप्रत्यायिता व्यक्ति : प्रदेशेषूपतिष्ठते ।। [वाक्यपदीय, 1.68-69]

2. पदार्थानांमपोद्धारे जातिर्वा द्रव्यमेव वा ।
पदार्थौ सर्वशब्दानां नित्यावेवोपवर्णितौ ।। [वाक्यपदीय, 3.12]

अतः सामान्य विशेष या उत्सर्गापवाद का मूल जातिव्यक्तिवाद है, यह सिद्ध होता है तथा इन दोनों को पृथक् पृथक् करना कदापि संभव नहीं है।

जैसा कि स्पष्ट किया जा चुका है कि विवक्षा के कारण कभी व्यक्ति तथा कभी आकृति अर्थ गृहीत होता है। अतः भाषा का नियमन जातिपरक होने पर विशेष स्थल में अपवाद या विशेष नियम का आश्रय लेना पड़ता है। अतः पाणिनि ने दोनों यथार्थतः उपलब्ध वादों का समुचित संयुक्तीकरण करते हुए वैज्ञानिक उत्सर्गापवाद सिद्धान्त का स्वशास्त्र में सन्निवेश किया। अतः पाणिनि के कुछ सूत्र सामान्य हैं, कुछ सूत्र विशेष हैं, इन दोनों प्रकार के सूत्रों से उचित सहयोग

लेने पर ही भारतीय वैयाकरण व्याकरण-निर्माण की श्रेष्ठतम पद्धति आविष्कृत करने में सफल हुए हैं।

पतञ्जलि ने इस सामान्य-विशेष पद्धति का शास्त्रारम्भ में परिचय देते हुए कहा है - 'सामान्य रूप से कथन उत्सर्ग होता है, जैसे 'कर्मण्यण्' कर्मकारक मात्र उपपद होने पर धातुमात्र से अण् प्रत्यय हो। उस उत्सर्ग का विशेष कथन अपवाद होता है, जैसे 'आतोऽनुपसर्गे कः' कर्मकारक मात्र उपपद होने पर उपसर्ग सहित आकारान्त धातु से क प्रत्यय हो।'[7]

इस विवेचन से ज्ञात होता है कि उत्सर्ग सूत्र का कार्य क्षेत्र विशाल होता है, तदपेक्षा अपवाद अल्पक्षेत्री है। दूसरी बात यह है कि अपवाद का क्षेत्र उत्सर्ग के क्षेत्र में आवश्यक रूप से निहित होता है । अतः अपवाद के विषय में उत्सर्ग की प्रवृत्ति पहले से सिद्ध होती है। पर अपवाद को उत्सर्ग की अपेक्षा, अल्प क्षेत्रीय नियम होने से विशेष बलवत्ता दी गई है, जिसके कारण वह उत्सर्ग की प्रवृत्ति को बाध लेता है । अन्यथा अपवाद के लिये उत्सर्ग-प्रवृत्त क्षेत्र के अतिरिक्त कोई अन्य क्षेत्र कार्य हेतु शेष ही नहीं रहेगा, जिससे उसके निरर्थक होने की आपत्ति हो जाती है । अतः उत्सर्ग सूत्र से उसे विशेष बलवान् मानकर अपवाद के क्षेत्र में उत्सर्ग नियम की प्रसक्ति को हटा दिया जाता है, अर्थात् उत्सर्ग की प्रवृत्ति अपवाद के क्षेत्र से अन्यत्र ही हो, ऐसा शास्त्रीय निर्णय स्वीकृत होता है।

V : उत्सर्गापवाद पद्धति की सिद्धता

उत्सर्गापवाद सिद्धान्त का प्रयोग भाषिकजगत् के वाक्यों में अनादिकाल से प्राप्त है। अतः भाषा के स्वरूप के साथ ही पद्धति का उद्‌भव माना जाना चाहिए। वैयाकरणों ने लोकप्रयुक्त भाषा के वाक्यों में उपलब्ध इस सिद्धान्त को भाषाशास्त्र-निर्माण-हेतु पद्धति के रूप में आविष्कृत किया है। पतञ्जलि ने उत्सर्गापवाद के बाध्यबाधकत्व के सम्बन्ध में लौकिक वाक्य को ही प्रमाण रूप में प्रस्तुत किया है। पूर्वपक्षी के द्वारा इस तरह शंका करने पर 'न तो ईश्वर ने आज्ञा दी है, न ही धर्मसूत्रकारों ने पढ़ा है कि असंभव होने पर अपवाद के द्वारा उत्सर्गो का बाध हो', तब यहाँ भाष्यकार पतञ्जलि ने सिद्धान्त पक्ष से समाधान करते हुए लिखा है कि इस बात को लौकिक दृष्टान्त से समझा जा सकता है। जगत् में (भाषा के क्षेत्र में) संभव होने पर भी बाध होता है, जैसे - 'ब्राह्मणों को दही दो, कौण्डिन्य को तक्र' –इस वाक्य के अर्थानुसार कौण्डिन्य को ब्राह्मण होने के नाते दही की भी प्राप्ति होनी चाहिए। पर तक्रदान विशेष बल के कारण दही दान का अपवाद होकर बाधक बन जाता है।[8] अतः अपवाद की विशेष शक्ति का प्रत्यक्ष लौकिक वाक्यों से सिद्ध है। इस तथ्य को नकारा नहीं जा सकता है। इस लोक-सिद्धि के आधार पर यह पद्धति अत्यन्त प्रामाणिक हैं, क्योंकि व्याकरणशास्त्र लोकप्रामाणिक भाषा का ही नियमन करता है।[9]

केवल लौकिक वाक्यों की बात नहीं, अपितु वैदिक तथा धार्मिक साहित्य में भी उत्सर्गापवाद का प्रयोग उपलब्ध है। स्थालीपुलाकन्याय से कुछ उदाहरण प्रस्तुत हैं।

1. उत्सर्ग सूत्र - 'वैकंकितानि पात्राणि'[10] - यज्ञपात्र वैकंकित के काष्ठ के बनते हैं।
अपवाद सूत्र - 'खादिरः स्रुवः'[11] - स्रुव खादिर काष्ठ का होता है।
- 'स्फयश्च'[12] - स्फय भी।
- 'पालाशी जुहुः'[13] - जुहु पलाशकाष्ठ की होती है।

2. उत्सर्ग विधि - 'रात्रौ न स्नायात्' - रात में स्नान न करें।
अपवाद विधि - 'राहूपरागे रात्रावपि स्नायात्' - चन्द्रगहण में रात्रि में भी स्नान करें।

3. उत्सर्ग विधि - 'मा हिंस्यात् सर्वभूतानि' - किसी भी प्राणि को न मारे।
अपवाद विधि - 'पशुना यजेत, अग्निमारूतीमनडवामालभेत' - पशु से यज्ञ करे

4. उत्सर्ग विधि - 'गर्भाष्टमेऽब्दे कुर्वीत, ब्राह्मणस्योपनायनम्।
गर्भादेकादशे राज्ञो, गर्भात्तु द्वादशे विशः।।'[14]
- गर्भ से आठवें वर्ष ब्राह्मण, ग्यारहवें क्षत्रिय तथा बारहवें वर्ष में वैश्य का उपनयन संस्कार करें।

अपवाद विधि - 'ब्रह्मवर्चसकामस्य कार्यं विप्रस्य पंचमे।
राज्ञो बलार्थिनः षष्ठे वैश्यस्येहार्थिनोऽष्टमे।।'[15]
- ब्रह्मतेज की कामना वाले विप्र का पांचवे, बलार्थी क्षत्रिय का छठे तथा धनार्थी वैश्य का आठवें वर्ष में यज्ञोपवीत संस्कार करना चाहिए।

इस उत्सर्गापवाद विधि के लोक तथा शास्त्र में सर्वत्र व्यापक तथा सिद्ध होने पर महाभारतकार का एतद्विषयक कथन सुसंगत जान पड़ता है।[16]

VI : उत्सर्गापवाद का व्याकरणशास्त्रीय विवेचन

यह सत्य है कि अष्टाध्यायी के सूत्रों में सबसे अधिक सूत्र उत्सर्गापवाद विधि के हैं। परन्तु इन के विषय में शास्त्रीय चर्चा बहुत ही कम की गई है। सामान्यतः निरवकाश विधि अपवाद का लक्षण है, जिसका तात्पर्य है कि अपवाद के क्षेत्र में यदि उत्सर्ग प्रवृत्त हो जाये तो अपवाद के पास कोई अवकाश (लक्ष्य) शेष नहीं रहता। क्योंकि उत्सर्ग के विस्तृत क्षेत्र में ही अपवाद का लघु क्षेत्र है। अतः अपवाद वह विधि है जो अन्य प्राप्त विधि का निरवकाश होने के कारण बाध करती है। जैसा कि कहा गया है–'येन नाप्राप्ते यो विधिरारभ्यते स तस्य बाधको भवति'।[17] यही नहीं अपवाद के चरितार्थ होने पर भी उत्सर्ग अपवाद के क्षेत्र में प्रविष्ट नहीं हो सकता है। अतः अपवाद दो तरह का है।

प्रथम निरवकाश अपवाद - वह अपवाद है जो उत्सर्ग क्षेत्र के अतिरिक्त अन्यत्र अचरितार्थ होने के कारण निरर्थक होकर बाध करे। जैसे 'गां ददाति' विग्रह में 'कर्मण्यण्' [अष्टा. 3.2.1], इस उत्सर्ग सूत्र की प्राप्ति होने पर 'आतोऽनुपसर्गे कः' [अष्टा. 3.2.3] इस

विशेष सूत्र का उत्सर्ग क्षेत्र से अतिरिक्त क्षेत्र न होने के कारण बाधक (अपवाद) बनकर 'क' प्रत्यय करना, यह निरवकाश अपवाद है। अगर सर्वत्र कर्म उपपद रहने पर धातु से 'अण्' होगा तो 'क' प्रत्यय कहां होगा? यहाँ 'क' प्रत्यय-विधायक सूत्र व्यर्थ होकर बाध करता है।

द्वितीय अपवाद प्रतिपाद्य-बाधक है - यह अपवाद के संभव होने पर भी तक्रकौण्डिन्य न्याय की तरह पुनः सामान्यशास्त्र का बाध करता है। जैसे 'मिदचोऽन्त्यात्परः' [अष्टा. 1.1.47] परिभाषा सूत्र । यशाँसि, पयाँसि प्रयोग में 'मिदचोऽन्त्यात्परः' सूत्र की सहायता से 'नपुसंकस्य झलच' [अष्टा. 7.1.72] सूत्र से 'नुम्' होता है। 'नुम्' करने के पश्चात् 'अलोऽन्त्यस्य' [अष्टा. 1.1.51] परिभाषा सूत्र के सहयोग से पुनः 'नुम्' होना चाहिए, तब तक्रकौण्डिन्य न्याय की तरह 'मिदचोऽन्त्यात् परः' अपवाद सूत्र उसे बाध लेता है।

उत्सर्गापवाद विधि पर महाभाष्यादि ग्रन्थों के आलोड़न के पश्चात् जो सिद्धान्त भट्ट नागेश ने अपने ग्रन्थ में स्थिर किए हैं उनमें से मुख्य अधोलिखित हैं -

1. पूर्व से पर, पर से नित्य, पर और नित्य दोनों से अन्तरंग, पर, नित्य और अन्तरंग तीनों से अपवाद बलवान् होता है। 'पूर्वपरनित्यान्तरंगापवादानामुत्तरोत्तरं बलीयः' - [परिभाषेन्दुशेखर, 38]
2. जिसकी (विधि सूत्र) अवश्य प्राप्ति होने पर जो विधि (सूत्र) आरम्भ करते हैं, वह उसका बाधक होता है। उस सामान्य शास्त्र का विशेष शास्त्र से बाध होता है, जिस सामान्य शास्त्र के उद्‌देश्य में विशेष शास्त्र का उद्‌देश्य प्रविष्ट रहता है। 'येन नाप्राप्ते यो विधिरारभ्यते स तस्य बाधको भवति।' [परि. 58]
3. क्वचित् अपवाद के विषय में भी उत्सर्ग प्रवृत्त होता है। 'क्वचिदपवादविषयेऽप्यु त्सर्गोऽभिनिविशते'। [परि. 59]
4. पूर्व में आया हुआ अपवाद अव्यवहित विधि को बाधता है, उत्तर विधि को नहीं। 'पुरस्तादपवादा अनन्तरान् विधीन् बाधन्ते नोत्तरान्' [परि. 60]
5. मध्य में आये हुए अपवाद पूर्ववर्ती विधियों को बाधते हैं, उत्तरवर्ती विधियों को नहीं । 'मध्येऽपवादाः पूर्वान् विधीन् बाधन्ते नोत्तरान्'। [परि. 61]
6. किसी सूत्र से अनन्तर का ही विधान होता है। अनन्तर का ही प्रतिषेध होता है। 'अनन्तरस्य विधिर्वा भवति प्रतिषेधो वा'। [परि. 62]
7. पहले अपवाद की प्रवृत्ति होती है और बाद में उत्सर्ग की प्रवृत्ति होती है 'पूर्वं ह्यपवादा अभिनिविशन्ते पश्चादुत्सर्गाः'।. [परि. 63]
8. अपवादशास्त्र की पर्यालोचना के पहले ही उत्सर्ग अपवादविषय का परित्याग कर ही प्रवृत्त होता है। 'प्रकल्प्य चापवादविषयं तत उत्सर्गोऽभिनिविशते'। [परि. 64]

9. अभ्यास विकारों में बाध्यबाधक भाव नहीं होता है। 'अभ्यासविकारेषु बाध्यबाधकभावो नास्ति'। [परि. 67]

इन सिद्धान्तों के द्वारा शब्दसाधुत्व-प्रक्रिया में बाध्यबाधक के निर्णय में बड़ी सहायता मिलती है। पर इससे भी उत्सर्गापवाद के सिद्धान्त के स्वरूप के विषय में अधिक प्रकाश नहीं पड़ता। हम जिस बाध्यबाधकभाव की चर्चा कर रहे हैं, वह केवल उत्सर्गापवाद पर, नित्य, अन्तरंग आदि तक ही सीमित नहीं है, अपितु असिद्ध-विधान से भी जुड़ा हुआ है। असिद्ध-विधान की आवश्यकता दो कारण से होती है - 1. दो सूत्रों की समकालिक प्रवृत्ति की संभावना, 2. किसी एक सूत्र के लग जाने के पश्चात् अन्य अनभीष्ट सूत्र की प्रवृत्ति की संभावना । तब शास्त्रकार के पास असिद्ध - विधान के अतिरिक्त कोई मार्ग नहीं रहता है।

पतञ्जलि ने असिद्धत्व के उद्देश्य को संक्षेप में कहा है - 'असिद्धवचनमादेशलक्षण-प्रतिषेधार्थमुत्सर्गलक्षणभावार्थञ्च' [महाभाष्य, 8.2.1.]। इसका सीधा आशय स्थानी को निमित्त मानकर होने वाली विधियों को प्रवृत्त कराना, तथा आदेश को निमित्त मानकर प्रवृत्त उत्तरकालिक विधियों को रोकना है। असिद्ध विधान पूर्व विधि को तो निषिद्ध नहीं करता परन्तु पश्चात् विधि का निषेधक है तथा पश्चात् विधि के चरितार्थ होने पर पूर्वविधि का निषेध करता है। अतः इसमें द्विविध निषेध का भाव रहता है तथा निषेध विधि का अपवाद में ही अन्तर्भाव है।

VII : अपवाद के भेद

यह आश्चर्यजनक तथ्य है कि पाणिनि के अष्टाध्यायी ग्रन्थ पर 1500 के लगभग ग्रंथ लिखे गए हैं, जिन्हें कोई भी मनुष्य अपनी सम्पूर्ण आयु में पढ़ नहीं सकता, पर उत्सर्गापवाद के स्वतंत्र विवेचन हेतु कोई ग्रन्थ उपलब्ध नहीं है। संभवतः व्याकरण के लक्ष्यप्रधान होने के कारण लक्षणों के पद्धतिमूलक अध्ययन की परम्परा हमारे देश में कम लोकप्रिय रही है, यही इसकी अल्प चर्चा का कारण हो सकता है। स्थूल रूप में अपवाद के स्वरूप भेद को निम्न प्रकार समझा जा सकता है -

1 शास्त्रकारकल्पित अपवाद

2 लोकव्यवहारकृत यथार्थापवाद

- अ. - विधानात्मक अपवाद
- आ. - निषेधात्मक अपवाद
- इ. - विधिनिषेधात्मक अपवाद (उभयात्मक, विकल्पात्मक)
- ई. - असिद्ध अपवाद ।

1. शास्त्रकारकल्पित अपवाद -

इस श्रेणी में हम उन अपवादों को रख सकते हैं, जिनमें प्रत्येक सूत्र का अधिकार क्षेत्र पृथक्-पृथक् होता है। वास्तव में उनमें कोई बाध्यबाधक भाव नहीं होता है, पर शास्त्रकार अपनी शैली या लाघव के कारण पहले एक सूत्र का अधिकार क्षेत्र विस्तृत बता देता है फिर उसी क्षेत्र में से प्रत्येक सूत्र का क्षेत्र अपवाद सूत्रों की सहायता से बता देता है । यहाँ जो क्षेत्र अपवाद से नहीं बताया जाता है वह अवशिष्ट क्षेत्र उत्सर्ग का क्षेत्र होता है। इस तरह के उत्सर्गापवाद के विधान में लाघव आदि कारण हो सकते हैं। यह ज्ञातव्य है कि प्रत्येक सूत्र का अधिकार क्षेत्र पृथक् होने के कारण केवल उत्सर्ग सूत्रों से ही कार्य किया जा सकता है। इसका उदाहरण हम 'अच्' (स्वर) संधि से ले सकते हैं। पाणिनीय विधान के अनुसार 'अच्' संधि के सामान्य कार्य विधायक निम्न सूत्र हैं -

उत्सर्ग सूत्र	अपवाद सूत्र
1. आद्‌गुण : [अष्टा. 6.1.87]	क - वृद्धिरेचि [अष्टा. 6.1.88] ख - अकःसवर्णे दीर्घः [अष्टा. 6.1.101]
2. इको यणचि [अष्टा. 6.1.77]	अकः सवर्णे दीर्घः [अष्टा. 6.1.101]
3. एचोऽयवायावः [अष्टा. 6.1.78]	एङः पदान्तादति [अष्टा. 6.1.109]

यहाँ पाणिनिप्रयुक्त बाध्यबाधकता को दूर करने हेतु 'आद् गुणः' सूत्र में अचि के स्थान पर 'इकि', 'इको यणचि' सूत्र में 'असवर्णे' तथा 'एचोऽयवायावः' सूत्र में 'एङः परे अति इति स्थितिं त्यक्त्वा', जोड़ने पर इन सूत्रों का परस्पर बाध्यबाधकताभाव समाप्त हो जाता है तथा सभी उत्सर्ग बन जाते हैं। इसी तरह के विवेचन से शास्त्रकार-कल्पित अपवाद को दूर करने की पद्धति बनायी जा सकती है, क्योंकि इस तरह के अपवाद संरचना-दृष्टि से लाघवता को सिद्ध करते हैं। अपवाद विधि के परित्याग पर शास्त्र में आकार की वृद्धि होगी।

2. लोकव्यवहारकृत अपवाद-

वैयाकरण भाषा का निर्माता नहीं होता है, अपितु लोकप्रयुक्त भाषा को प्रामाणिक मानकर नियमन के सिद्धान्त प्रस्तुत करता है। लोकव्यवहृत सम्पूर्ण भाषा को नियमित करते समय यद्यपि सार्वत्रिक तथा विशेष नियमों की अवस्थिति भाषा में शास्त्रकार को पूर्व से दिखाई पड़ती है, पर उन प्राप्त सार्वत्रिक नियमों का अपवाद भी भाषा में प्रामाणिक रूप से प्राप्त होता है। तब नियम तथा उसके अपवादों को संग्रह कर बतलाने के अलावा शास्त्रकार के पास अन्य मार्ग नहीं बचता है। उदाहरणार्थ, 'अच्' (स्वर) संधि के जो नियम बतलाये गये हैं, उनके बहुत से अपवाद भाषा में प्राप्त होते हैं, सूत्रकार पाणिनि तथा वार्तिककार कात्यायन ने अपवाद सूत्रों के द्वारा उनका शास्त्र में समावेश किया है, जो अग्रलिखित है -

उत्सर्ग सूत्र	अपवाद सूत्र	उदाहरण
1. आद्गुणः [अष्टा. 6.1.87]	1. एत्येधत्यूठ्सु [अष्टा. 6.1.89]	प्रष्ठौह
	2. उपसर्गादृति धातौ [अष्टा. 6.1.91]	उपार्च्छति
	3. वा सुप्यापिशलेः [अष्टा. 6.1.92]	प्रार्षभीयति
	4. ऋत्यकः [अष्टा. 6.1.28]	ब्रह्म ऋषि
	5. आटश्च [अष्टा. 6.1.90]	ऐक्षत
	6. उस्य पदान्तात् [अष्टा. 6.1.96]	भिन्द्युः
	7. अक्षादूहिन्यामुपसंख्यानम् [वा., 3604]	अक्षौहिणी
	8. शकन्ध्वादिषु पररूपं वाच्यम् [वा. 3632]	हलीषा
	9. स्वादिरेरिणोः [वा. 3606]	स्वैर
	10. प्रादूहोढोढ्येषैष्येषु [वा. 3605]	प्रौहः
	11. ऋते च तृतीया समासे [वा., 3607]	सुखार्त
	12. प्रवत्सरकम्बलवसनार्णदशानामृणे [वा. 3608]	प्रार्णम्
2. वृद्धिरेचि [अष्टा. 6.1.88]	1. एङि. पररूपम् [अष्टा. 6.1.94]	प्रेजते
	2. ओमाङोश्च [अष्टा. 6.1.95]	शिवायों नमः
	3. अतो गुणे [अष्टा. 6.1.93]	पचे यजे
	4. ओसि च [अष्टा. 7.3.104]	रामयोः
	5. आङि. चापः [अष्टा. 7.3.105]	रमयोः
	6. ओत्वोष्ठ्यो : समासे वा [वा. 3634]	स्थूलोतुः
3. अकः सवर्णे दीर्घः [अष्टा. 6.1.10]	1. अतो गुणे [अष्टा. 6.1.97]	पचन्ति
	2. ईदूदेद्द्विचनं प्रगृह्यम् [अष्टा. 1.1.11]	हरी इमौ
	3. अदसो मात् [अष्टा. 1.1.12]	अमी ईशा
	4. मय उञो वो वा [अष्टा. 8.3.33]	किमु उक्तम्
	5. निपात एकाजनाङ् [अष्टा. 1.1.14]	इ इन्द्र
	6. अमि पूर्वः [अष्टा. 6.1.107]	रामम्
	7. आङि. चापः [अष्टा. 7.3.105]	रमया
	8. दूराद्धूते च [अष्टा. 8.2.84]	कृष्ण३ अत्र गौश्चरति
	9. शकन्ध्वादिषु पररूपं वाच्यम् [वा. 3633]	शकन्धु
	10. ई३ चाक्रवर्मणस्य [अष्टा. 6.1.130]	चिनुहि३इति
	11. सीमन्त केशवेशे [वा. 3634]	सीमन्ते
	12. सारंग पशुपक्षिणोः [गणसूत्र 136]	सारंग
4. इको यणचि [अष्टा. 6.1.77]	1. इकोऽसवर्णे शाकल्यस्य ह्रस्वश्च [अष्टा. 6.1.27]	चक्रि अत्र
	2. ईदूदेद्द्विवचनं प्रगृह्यम् [अष्टा. 1.1.11]	हरी एतो

	3. स्त्रिया : [अष्टा. 6.4.79]	स्त्रियो :
	4. अस्थिदधिसक्थ्यक्ष्णामनङु.दात्तः [अष्टा. 7.1.75]	अस्थना
	5. आङोना स्त्रियाम् [अष्टा. 7.3.120]	हरिणा
	6. उञः [अष्टा. 1.1.17]	उँ इति
	7. ऊँ [अष्टा. 1.1.18]	ऊँ इति
5. एचोऽयवायावः [अष्टा. 6.1.78]	1. सम्बुद्धौ शाकल्यस्येवावनार्षे [अष्टा. 1.1.16]	विष्णो इति
	2. ओत् [अष्टा. 1.1.15]	अहो ईशा
	3. लोपः शाकल्यस्य [अष्टा. 8.3.19]	विष्ण इति
	4. इन्द्रे च [अष्टा. 6.1.124]	गवेन्द्र
6. एङः पदान्तादति [अष्टा. 6.1.109]	1. सर्वत्रविभाषा गोः [अष्टा. 6.1.122]	गो अग्रम्
	2. अवङ्. स्फोटायनस्य [अष्टा. 6.1.123]	गवाग्रम्

चूंकि ये अपवाद 'अच्' संधि से संग्रहीत है, अपवाद की उपलब्धि तो व्याकरण-शास्त्र में सर्वत्र हैं, अतः दिशानिर्देशन हेतु कुछ अपवाद सूत्रों का उल्लेख प्रस्तुत है -

उत्सर्ग सूत्र	अपवाद सूत्र	उदाहरण
1. तव्यत्तव्यानीयरः [3.1.96]	1. अयोचत् [3.1.97]	चेयम्
	2. पोरदुपधात् [यत्] [3.1.98)	शप्यम्
	3. शकिसहोश्च [यत्] [3.1.90]	शक्यम्
	4. गदमदचरयमश्चानुपसर्गे [यत्] [3.1.100]	गद्यम्
	5. वदः सुपिक्यप् च [3.1.106]	ब्रह्मोद्यम्
	6. भुवो भावे [क्यप्] [3.1.107]	ब्रह्मभूयम्
	7. हनस्त च [क्यप्] [3.1.108]	ब्रह्महत्या
	8. एतिस्तुशास्वृदृजुषः क्यप् [3.1.109]	इत्यः
	9. ऋदुपधाच्चक्लृपिचृतेः [क्यप्] [3.1.110]	वृत्तयम्
	10. इ च खनः [3.1.111]	खेयम्
	11. भृञोऽसंज्ञायाम् [3.1.112]	भृत्यः
	12. मृजेर्विभाषा [3.1.113]	परिमृज्यः
	13. प्रत्यपिभ्यां ग्रहेश्छन्दसि [3.1.118]	प्रतिगृह्यम्
	14. पदास्वैरिबाह्यापक्ष्येषु च [3.1.119]	अवगृह्यम्
	15. विभाषाकृवृषोः [3.1.120]	कार्यम्, कृत्यम्
	16. अमावस्यदन्यतरस्याम् [3.1.122]	अमावस्या
	17. ऋहलोर्ण्यत् [3.1.124]	कार्यम्

	18. ओरावश्यके [3.1.125]	लाव्यम्
	19. आसुयुवपिरपिलपित्रापि चमश्च [3.1.136]	आसाव्यम्
2. स्त्रियांक्तिन् [कृतिः] [3.3.94]	1. व्रजयजोर्भाविक्यप् [3.3.98]	व्रज्या
	2. अप्रत्ययात् [3.3.102]	चिकीर्षा
	3. गुरोश्चहल [3.3.103]	कुण्डा
	इसका भी अपवाद–	
	1. पर्यायार्हणोत्पतिषुण्वुच् [3.3.111]	अर्हति इक्षुमक्षिका
	4. षिद्‌भिदादिभ्योऽङ् [3.3.104]	जरा
	1. स्थागापापचोभावे [3.3.95]	पक्तिः
	5. आतश्चोपसर्गे [3.3.106]	प्रदा
	1. स्थागापापचोभावे [3.3.95]	प्रस्थिति
	6. रोगाख्यायां ण्वुलबहुलम् [3.3.108]	प्रच्छर्दिका
	7. आक्रोशे नञ्यनि [3.3.112]	अकरणिस्ते-बषल्भूयात्
3. परोक्षे लिट् [3.2.115]	लट् स्मे [3.2.118]	यजति स्म युधिष्ठिर
4. अनद्यतने लङ् [3.2.111]	अपरोक्षे च [3.2.119]	स्म पिता ब्रवीति
5. लुङ् [3.2.110]	ननौ पृष्टप्रतिवचने [3.2.120]	ननु करोमि भो !
6. सर्वलकार-विधान-सूत्र	1. माङि. लुङ् [3.3.175]	मा कार्षी
	2. गर्हायां लडपिजात्वो [3.3.142]	अपि जायां त्यजसि
	3. हेतुहेतुमतोर्लिङ् [3.3.156]	कृष्णं नंस्पति चेत्सुखं यास्यति
7. कर्तरि शप् [3.1.68]	[3.1.69 से 82 तक] 14 सूत्र	
8. च्लेः सिच् [3.1.44]	[3.1.45 से 66 तक] 22 सूत्र	
9. अजाद्यतष्टाप् [4.1.4]	[4.1.10, 15, 16, 19, 21, 27, 30, 39, 40, 41, 42, 43, 48, 49, 50, 51, 52, 54, 60, 63 64, 74]	
10. तदस्यास्त्य-स्मिन्निति मतुप् [5.2.94]	[5.2.96 से 5.2.140 तक]	

11. प्रातिपदिकार्थ-लिंगपरिमाण-वचनमात्रे प्रथमा	दूरान्तिकार्थेभ्यो द्वितीया च [2.3.14]	ग्रामस्य दूरम्
12. कर्मणि द्वितीया	1. क्रियार्थोपपदस्य च कर्मणि स्थानिनः [2.3.14]	फलेभ्यो याति
	2. मन्य कर्मण्यनादरे विभाषा प्राणिषु [2.3.17]	नत्वां तृणाय मन्ये
	3. संज्ञोऽन्यतरस्यां कर्मणि [2.3.22]	मात्रा संजानीते

यह उत्सर्गापवाद पद्धति की विशेषता है कि उत्सर्गों का कथन करने के पश्चात् अध्येता को अपवाद सूत्रों के माध्यम से अपवाद बतलाये जाते हैं। अध्येता अपने बुद्धि विवेक से प्रयोगस्थल में अपवादों को विशेष बल के कारण पूर्व में घटित करता है, तब अपवाद से अवशिष्ट क्षेत्र में उत्सर्ग नियमों को चरितार्थ कर लेता है।

अ- विधानात्मक अपवाद

हम उन अपवादों को विधानात्मक मान सकते हैं, जिनमें सामान्य सूत्र द्वारा प्राप्त विधि का परित्याग कर अपवाद के द्वारा विशेष विधि का ग्रहण किया जाये। यह सामान्य विधि का निषेध कर विशेष विधि का विधान करता है । यथा-'प्रष्ठ + उह' प्रयोग स्थल में 'आद् गुणः' सूत्र से प्राप्त सामान्य गुण विधि को बाध कर 'एत्येधत्यूठ्सु' सूत्र से विशेष वृद्धि का विधान करना । अपवादों में सबसे अधिक अपवाद इसी श्रेणी के है।

आ- निषेधात्मक अपवाद

वह अपवाद निषेधात्मक है, जो सामान्य सूत्र द्वारा प्राप्त विधि का निषेध करते हैं, पर स्वयं कोई विधान नहीं करते है। यथा 'रामान्' शब्द में 'अट्कुप्वाङ्नुम्व्यवायेऽपि' [अष्टा. 8.4.2] सूत्र से 'न्' के स्थान पर 'ण्' प्राप्त होता है पर 'पदान्तस्य' [अष्टा. 8.4.37] सूत्र पदान्त होने से निषेध कर देता है। शास्त्रकार जब देखता है कि शास्त्र तथा लोकप्रयुक्त वाक्व्यवहार में किञ्चित् अन्तर है, विधि सूत्र कुछ अनावश्यक क्षेत्र को ग्रहण कर रहा है, विधि की इस उद्दाम प्रवृत्ति को नियंत्रित करने हेतु निषेधात्मक अपवाद का सहारा लेना होता है। यह अपवाद लोक-स्थिति के अनुसार विधि को संकुचित कर देता है, जिससे लोक तथा शास्त्र दोनों का सामंजस्य बैठ जाता है। शास्त्र में जो अनावश्यक विधान प्राप्त होते हैं, उनका निषेध भी इसी प्रक्रिया से संभव है।

इ- विधिनिषेधात्मक अपवाद

इस अपवाद को विकल्पात्मक अपवाद भी कहा जा सकता है। इसमें विधि और निषेध दोनों का समावेश है। इससे होने वाली विधि एक बार अगर होती है तो एक बार नहीं भी होगी। इसका तात्पर्य है कि भाषा में एक ही शब्द के दो मिलते-जुलते से प्रयोग प्राप्त होते हैं, कोई एक प्रयोक्ता अपनी इच्छा के कारण किसी एक प्रयोग का ग्रहण करता हैं, अपर प्रयोक्ता

अन्य दूसरे का करता है। तब वैयाकरण के समक्ष विचित्र समस्या होती है कि एक ही शब्द के दो तरह के प्रयोगों को सिद्ध करना । यहाँ उसे ऐसे नियम बनाने होंगे जो एक प्रयोग की दृष्टि में होते हैं, पर अन्य की दृष्टि से नहीं भी होते हैं। अर्थात् प्रयोक्ता अपनी इच्छा से दोनों में जिस किसी एक प्रयोग को स्वीकार, तदनुसार ही व्याकरणशास्त्र उसकी सिद्धि करता है। यहाँ जो पद्धतिमूलक समस्या उठती है, वह है कि नियम [सूत्र] एक प्रयोग की दृष्टि से हो, अन्य की दृष्टि से न हो। चूंकि दोनों प्रयोग एक ही शब्द सामग्री की एक ही अवस्था में निष्पन्न हैं, अतः सूत्र में विधि के साथ निषेध, या निषेध के साथ विधि का जोड़ना आवश्यक हो जाता है। इसे हम विकल्प विधि कह सकते हैं। इस विकल्प विधि से अपवाद सूत्र हो तो वह उत्सर्ग का बाध भी करेगा, नहीं भी करेगा। चूंकि इसके उदाहरण दो होंगे, एक की दृष्टि में यह उत्सर्ग का अपवाद होगा, दूसरे की दृष्टि में उत्सर्ग का समर्थक होगा । यथा -

उत्सर्ग सूत्र	अपवाद सूत्र	उदाहरण
1. आद् गुणः [अष्टा. 6.1.87]	1. वा सुप्यापिशलेः [अष्टा. 6.1.192]	प्रार्षभीयति, प्रर्षभीयति
	2. ऋत्यकः [अष्टा. 6.1.128]	ब्रह्मऋषि, ब्रह्मर्षि
	3. अप्लुतवदुपस्थिते [अष्टा. 6.1.129]	सुश्लोक३ इति, सुश्लोकेति
2. वृद्धिरेचि [अष्टा. 6.1.88]	1. ओत्वोष्ठयोः समासे वा [वा. 3624]	स्थूलोतुः, स्थूलौतु
	2. ई. चाक्रवर्मणस्य [अष्टा. 6.1.130]	चिनुहि३ इति, चिनुहीति
	3. दूराद्धूते च [अष्टा. 8.2.84]	कृष्ण३ अत्र, कृष्णात्र
3. इको यणचि [अष्टा. 6.1.77]	1. इकोऽसवर्णेशाकल्यस्य ह्रस्वः [अष्टा. 6.1.127]	चक्रि अत्र, चक्र्यत्र
	2. उञः [अष्टा. 1.1.17]	उँ इति, विति
	3. ऊँ [अष्टा. 1.1.18]	ऊँ इति, विति
4. एचोऽयवायावः [अष्टा. 6.1.78]	1. सम्बुद्धौ शाकल्यस्येवावनार्षे [अष्टा. 1.1.16]	विष्णो इति, विष्ण विति-
	2. लोपः शाकल्यस्य [अष्टा. 8.3.19]	विष्ण इति, विष्ण-विति
5. एङः पदान्तादति [अष्टा., 6.1.109]	1. सर्वत्र विभाषा गोः [अष्टा. 6.1.122]	गो अग्रम, गोऽग्रम्
	2. अवङ् स्फोटायनस्य [अष्टा. 6.1.123]	गवाग्रम्, गोऽग्रम्

यहाँ हम समझ सकते हैं कि विकल्पात्मक अपवाद की भूमिका ऐसी है कि वह उत्सर्ग के क्षेत्र में से कुछ क्षेत्र ग्रहण कर अन्य विधान अथवा पक्षान्तर में स्वयं का निषेध कर उत्सर्ग के विधान को ही चरितार्थ करता है। इन सबको अपवाद की संज्ञा प्राप्त होने का कारण यह है कि ये सब उत्सर्ग के क्षेत्र में से स्थान अवश्य ग्रहण करते हैं, चाहे वहाँ विधि हो अथवा निषेध हो या दोनों हों, इससे इनकी अपवाद संज्ञा अक्षुण्ण रहती है।

ई- असिद्ध अपवाद

महर्षि ने अपने कुछ सूत्रों को असिद्ध माना है, इसका कारण यह है कि शब्दों की संरचना अनियत प्रवृत्ति वाली (अपवादयुक्त) होने के कारण नियमों में अन्तर्विरोध प्राप्त होता है। तब आचार्य अन्तर्विरोध समाप्ति हेतु कुछ सूत्र को बलहीन मानते हैं, उन्हें वे असिद्ध कहते हैं। यद्यपि अपवाद के विरोध में उत्सर्ग भी बलहीन है, पर यहाँ बलहीनता की दूसरी श्रेणी है, वह यह है कि असिद्ध सूत्र के अन्तर्विरोधरहित क्षेत्रों में चरितार्थ होने पर सिद्धसूत्र वहाँ लग ही नहीं सकते, क्योंकि असिद्ध सूत्र के कार्य को वे जानते ही नहीं हैं। अतः सूत्रों की अनभीष्ट प्रवृत्ति से बचने हेतु कुछ विशेष सूत्रों को त्रिपादी आदि में पढ़ा गया है। अगर उन्हें असिद्ध न किया जाए, सामान्य पद्धति से शास्त्र-निर्माण हो तो सहस्त्रों निषेध सूत्रों की आवश्यकता होगी। क्योंकि असिद्ध विधान की विशेष पद्धति का वरण करके जिन सूत्रों का एक साथ ही निषेध हो जाता है, उनके लिए पृथक्-पृथक् निषेध सूत्र निर्माण की आवश्यकता होगी । यह शास्त्रप्रक्रिया में लाघवार्थ स्वीकृत अपवाद ही है। वस्तुतः नियमों की क्रमिक प्रक्रिया विधान के अंतर्गत एक विशेष प्रकार का अपवाद स्वीकार करना पड़ता है, जिससे संक्षेप में अनभीष्ट प्रसक्ति को रोका जा सके, वह है असिद्ध विधान।

VIII : बाध्यबाधक भाव के निष्कृति के उपाय

इस समस्या के समाधान के विषय में ऐसा प्रयास करना चाहिए कि अध्येताओं के समक्ष व्याकरणशास्त्र का प्रारूप इस प्रकार रखा जाये कि उसमें केवल उत्सर्ग सूत्रों की ही अवस्थिति रहे। पाश्चात्य-विज्ञान के सिद्धान्तानुसार यदि अपवाद या विशेष सूत्रों का निर्माण न करें, जिनके कारण बाध्यबाधक भाव की समस्या उठती है, तो उत्सर्ग तथा अपवाद के क्षेत्रों का पृथक्-पृथक् विभाजन करना पड़ेगा। तब उत्सर्ग के क्षेत्र में अपवाद की प्रसक्ति न होगी तथा अपवाद के क्षेत्र में उत्सर्ग की संभावना भी नहीं रहेगी। इस विषय में शास्त्रकार-कल्पित अपवादों के निरास का उपाय प्रदर्शित किया जा चुका है। अपवाद के द्वितीय विभाजन लोकव्यवहारकृत अपवादों के सन्दर्भ में निवेदन है कि जगत् के भाषिक व्यवहार में जो जो अपवाद उपलब्ध हैं उनको वर्गीकृत करके उत्सर्ग सूत्र में यह उल्लेख जोड़ते हुए कि वह इन अपवाद क्षेत्र को छोड़कर ही प्रवृत्त है, ऐसा कहे। जिसके कारण उत्सर्ग सूत्र अपवाद क्षेत्र में प्रवृत्त नहीं हो सकेगा तथा अपवाद भी उत्सर्गता को प्राप्त कर लेगा। यथा यह कहा जाये कि 'आद्गुणः' (अष्टा. 6.1.87) सूत्र 1. 'एत्येधत्यूठ्सु' (अष्टा. 6.1.89); 2. उपसर्गादृति धातौ (अष्टा. 6.1.91); 3. वा सुप्यापिशलेः (अष्टा. 6.1.92); 4. अस्य पदान्तात् (अष्टा. 6.1.96);

5. ऋत्यकः (अष्टा. 6.1.128) इत्यादि सूत्र तथा 1. शकन्ध्वादिषु. (वा. 3632); 2. अक्षादूहिन्यामुपसंख्यानम् (वा. 3604); 3. स्वादिरेरिणोः (वा. 3606); 4. प्रादूहोढोढ्येषैष्येषु (वा. 3605); 5. ऋते च तृतीयासमासे (वा. 3607); 6. प्रवत्सरकम्बलवसनार्णदशानामृणे (वा. 33608) इत्यादि वार्त्तिकों के द्वारा कथित क्षेत्र को छोड़कर हो। इस तरह प्रथम तो उत्सर्ग सूत्र के क्षेत्र में अपवाद सूत्रों का कथन अवश्य बढ़ेगा, क्योंकि हमें उत्सर्ग सूत्र में यह कहना होगा कि इन क्षेत्रों को छोड़कर उत्सर्ग सूत्र 'आद्गुणः' प्रवृत्त होगा। फिर अपवाद सूत्र जिस रूप में हैं, उसमें ही रहेंगे।

IX : जटिलता एवं गौरव दोष की संभावना

इस तरह करने पर दो समस्याओं का जन्म होगा। एक सूत्रों में अप्रत्याशित वृद्धि होगी। शास्त्र का आकार विशालकाय होगा। दूसरी समस्या यह होगी कि उत्सर्ग सूत्र की सरलता समाप्त हो जायेगी। वे भयंकर जटिलता को प्राप्त करेंगे। माना जाये कि एक उत्सर्ग सूत्र के पचास अपवाद सूत्र हैं, चूंकि बाध्यबाधकभाव समाप्ति के लिए हमें उस उत्सर्ग सूत्र में यह जोड़ना होगा कि यह सूत्र इन पचास अपवाद सूत्रों के क्षेत्र को छोड़कर होगा, तब पचास सूत्रों के स्वरूप को समझ कर ही हमें ज्ञात होगा कि इसके अतिरिक्त (शेष) क्षेत्र इस उत्सर्ग सूत्र का है। इसके कारण जो शास्त्र में जटिलता आयेगी वह सामान्य मनुष्य के लिए बुद्धिगम्य नहीं होगी। तब जटिल तथा विस्तृत शास्त्र में कोई प्रवेश का इच्छुक नहीं होगा। शास्त्रकारों की प्रतिज्ञा है कि शास्त्र लाघव तथा सरलता से युक्त होने पर ही सर्वजनग्राह्य होगा। जटिल तथा विस्तृत शास्त्र को कोई भी भाषा-प्रयोक्ता सामान्यजन जानने को इच्छुक नहीं होगा।

X : असम्भव दोष की उद्‌भावना

यहाँ ध्यान देने योग्य तथ्य है कि उपर्युक्त प्रकार से हमने जो उत्सर्ग सूत्र का स्वरूप निश्चित किया है, क्या ऐसा उत्सर्ग बनाना उचित होगा? जाति या सामान्य का निर्माण नहीं किया जाता है, वह वस्तु के स्वभाव से सिद्ध होती है। अतः इस प्रकार की जाति कल्पना नहीं की जा सकती है। 'आद् गुणः' सूत्र में तीन तत्त्व है अ, आ+इ, ई, उ, ऊ, ऋ, ॠ, लृ = ए, ओ अर्, अल् । यहाँ ये सभी वर्ण जातियां है। इनमें प्रत्येक वर्ण से समग्र जाति के वर्णो का ग्रहण होता है, अपवाद सूत्र 'एत्ये.' (अष्टा. 6.1.89) के अनुसार यह कहा जाये कि उठ् के उवर्ण को छोड़कर समग्र उवर्ण पर नियम घटित होगा तो प्रश्न है कि उठ् के उवर्ण को वर्ग की जाति से पृथक् कैसे किया जा सकेगा। केवल उठ् में पठित उवर्ण अपनी जाति का परित्याग कैसे करेगा, जबकि उवर्ण जाति से समग्र वर्णो का ग्रहण करते हैं। अतः इस विधि से अपवाद रहित उत्सर्गों का निर्माण सम्भव नहीं होगा।

वस्तुतः नियम की विषयता से ही क्षेत्र का निश्चय हो जाता है। कैसे ? और दूसरी ओर 'नियम' उसके क्षेत्र को सामान्य रूप से अलग कर अगर नियम वाक्य 'क्षेत्र-नियम' बन

सकता है तो इस वाक्य के 'क्षेत्र' अंश की विषयता बदली जा सकती है। ऐसा तब सम्भव होगा अगर क्षेत्र निर्णायक नियम अंश का भी निश्चय हो जाये। यहाँ ध्यातव्य है कि नियम अर्थात् सूत्र के प्रारूप में जातियाँ ही क्षेत्र-निर्णायिका हैं। पूर्व वर्णित उपाय के अनुसार उत्सर्ग अपवाद का क्षेत्र विभाजन अगर जातियां बदलना हो गया तब तो उत्सर्ग को बदलना कदापि सम्भव नहीं होगा। अगर सूत्र का क्षेत्र-निर्देश जातियों से अलग कर समझा जाये जैसा कि Universal and existential Quantification का विचार पश्चिम में प्रचलित है तब सम्भवतः बदलते क्षेत्र की उत्सर्ग-कल्पना की जा सकती है। जैसे उत्सर्ग का प्रारूप क्षेत्र विधि का माना जाये, तब अपवाद के उपलब्ध होने पर 'क्षेत्र' अंश में निषेधात्मक विशेषता जोड़कर उत्सर्ग को परिष्कृत किया जा सकता है। परन्तु जाति एवं व्यक्तिवाद में ही स्पष्ट कर दिया गया है कि इनका अभेद सम्बन्ध है। अतः व्याकरणशास्त्र के अनुसार जाति एवं व्यक्ति को पृथक् नहीं किया जा सकता है। पाणिनि के सूत्र के क्षेत्र का निर्धारण जातिमती व्यक्ति या व्यक्तिमती जाति करती है। अतः यह स्वीकरणीय है, सूत्रों के क्षेत्र को नियम की विषयता से पृथक् नहीं किया जा सकता, अतः अपवाद क्षेत्रातिरिक्त उत्सर्ग नियम की कल्पना शशश्रृंग सदृश है। यहाँ केवल जटिलता एवं गौरव का प्रश्न नहीं है अपितु उत्सर्ग नियम के स्वरूप का भी है। पाश्चात्य सम्प्रदायों में उत्सर्ग नियमन का ढांचा जो प्रचलित है, वह तो क्षेत्र को नियम की विषयता से अलग कर देखता है। पर भारतीय भाषाविज्ञानानुसार ऐसा सम्भव नहीं है । अतः उत्सर्ग तथा अपवाद को अलग-अलग विभाजित कर देखना सम्भव नहीं है।

यहाँ अगर ऐसा माना जाये कि पाणिनि के अपवाद सूत्रों को पहले लगाकर फिर शेष में उत्सर्गो को लगाया जाये तो बाध्य-बाधक-भाव नहीं रहेगा, यह भी ठीक नहीं है। क्योंकि पाणिनि के एक-एक सूत्र प्रयोग में नहीं लगते, अपितु समग्र सूत्र एक साथ लगते है तथा अपवाद के लगने पर यदि अनभीष्ट उत्सर्ग की प्रवृत्ति वहाँ प्राप्त हो तो उसका निषेध किस प्रकार होगा, क्योंकि हम बाध्य-बाधकता की बलवत्ता को अस्वीकार कर रहे हैं। अतः निर्विवाद रूप में माना जाना चाहिए कि अपवाद की निष्कृति का उपाय व्याकरणशास्त्र में किसी भी युक्ति से असम्भव है।

यहाँ एक महत्वपूर्ण ध्यान देने योग्य बात है कि विकल्पात्मक अपवादों को किसी भी युक्ति से हटाना संभव नहीं है। विकल्पात्मक अपवाद वहां प्रयुक्त हैं, जहाँ उत्सर्गापवाद दोनों का क्षेत्र एक ही होता है, पर दोनों उत्सर्गापवाद सूत्र क्रमशः प्रवृत्त होते हैं तथा द्विविध परिणाम प्रदान करते हैं। भाषा में द्विविध रूप हैं, अतः दोनों की सिद्धि आवश्यक है। यहाँ जो दो सूत्र चरितार्थ होते हैं, वे आपस में एक दूसरे का निषेध कर स्वयं लगते हैं। पाश्चात्य विज्ञान-सिद्धान्त के अनुसार ऐसी स्थिति होनी असंभव है कि नियम लगे भी, नहीं भी लगे। यहाँ अवधेय है कि भाषा मनुष्यगम्य है, प्रत्येक मनुष्य के द्वारा भिन्न-भिन्न रूप में बोली जाती है। इसका वक्ता अपने इच्छास्वातन्त्र्य के कारण सदृश शब्दों की सृष्टि कर लेता है, लोकव्यवहार में दोनों की प्रामाणिक स्थिति पाई जाती है। अतः शास्त्रनिर्माता को मान्यता प्राप्त दोनों रूपों की प्रामणिकता सिद्ध करनी पड़ती है, चूंकि विश्लेषण के आधार पर दोनों शब्दों की मूलभूत

सामग्री एक ही होती है, पर प्रयोग द्विविध प्राप्त हैं। यही वह स्थिति है जो यह मानने को बाध्य करती है कि भाषा के क्षेत्र में बिना अपवाद सूत्रों के व्याकरण-निर्माण संभव ही नहीं है। अन्यथा विकल्पात्मक अपवाद को कैसे सामान्य नियमों में बाँटा जा सकेगा।

त्रिपादी के असिद्ध विधान से जो प्रक्रिया में बाध्य-बाधकता प्राप्त हो रही है वह हजारों निषेध सूत्रों के द्वारा दूर की जा सकती है। पूर्व एवं पर की बाध्यबाधकता के पीछे यह रहस्य है कि सूत्रकार के द्वारा पृथक्-पृथक् क्षेत्र के लिए बनाए गए सूत्र भी किसी प्रयोग के क्षेत्र में एक साथ प्राप्त हो जाते हैं। दोनों सूत्रों की पृथक्-पृथक् आवश्यकता है। अतः सूत्रों में संशोधन किया नहीं जा सकता, पर प्रकृत प्रयोग में एक ही सूत्र की आवश्यकता है, एक का अनावश्यक प्रवेश हो रहा है। तब दोनों का तुल्य बल मानकर आचार्य ने निषेध करने के लिए पूर्व एवं पर विधान का सहारा लिया । यह सूत्रों के क्रमिक विधान का रूप वैज्ञानिक है तथा यहाँ सूत्रों में कोई बाध्य-बाधकता नहीं है, केवल प्रयोग का निर्धारण करना है कि यह किस सूत्र के क्षेत्र में है, जो सरलता से किया जा सकता है।

यहाँ वर्णित अपवादों का विवेचन पूर्ण नहीं है, दिशानिर्देश मात्र है, क्योंकि समग्र अपवादों का विवेचन एक पूर्ण ग्रंथ की अपेक्षा रखता है। यहां तो संक्षेप में मुख्य बिन्दुओं की चर्चा मात्र हुई है। विस्तृत अध्ययन के पश्चात् अपवाद और भी स्वसत्तासाधक प्रमाण प्रदान करेंगे, इसमें संदेह नहीं है, फिर भी निर्विवाद रूप से यह मान सकते हैं कि बाध्य-बाधक-भाव कोई शैली मात्र नहीं है, अपितु भाषा के व्याकरण-निर्माण हेतु अनिवार्य तत्त्व है, जिसकी अवहेलना करने पर पूर्ण तथा भ्रमरहित व्याकरण निर्माण असंभव है। केवल बाध्यबाधकभाव, सरलता एवं लघुता को ही नहीं, अपितु शास्त्र की भाषा तथा लोक के साथ यथार्थ अन्विति का मार्ग भी प्रशस्त करते हैं तथा उत्सर्ग के क्षेत्र में विद्यमान अपवाद का क्षेत्र एक ऐसी सत्य-स्थिति है जो केवल उत्सर्ग सूत्र के स्वाभाविक जात्यादि नियमों के कारण है। यदि बाध्यबाधकभाव रहित व्याकरणशास्त्र की परिकल्पना की जाए, तो कोई विशेष नियमों का विधान स्वीकार करना पड़ेगा, जो बाध्यबाधक के पणिनीय विधान से श्रेष्ठ नहीं हो सकता है।

सन्दर्भ

1. 'बृहस्पतिरिन्द्राय द्विव्यं वर्षसहस्रं प्रतिपदोक्तानां शब्दानां शब्दपरायणं प्रोवाच नान्तं जगाम'। महाभाष्य 1.1.1. पृ. 19

2. अ- 'ऋषियोऽपि पदार्थानां नान्तं यान्ति पृथक्त्वशः।
   लक्षणेन तु सिद्धानामन्तं यान्ति विपश्चितः'। पूर्व मीमांसा, शाबरभाष्य 2.1.32,
   आ- 'गौस्तिष्ठति, देवदत्तः पचति, इत्यादयः श्रृंगग्राहिकया तावज्जन्मसहस्रेणापि बोधयितुं चाशक्यः, आनन्त्यात् । अतः प्रकृतिप्रत्ययविभागकल्पनारूपो लघुभूत उपायः समाश्रीयते लिपिवत्' । शब्दकौस्तुभः, पृ. 6

3. ''किञ्चित् सामान्यविशेषवल्लक्षणं प्रवर्त्त्यम्, येनाल्पेन यत्नेन महतो महतः शब्दौघान् प्रतिपद्येरन्' । महाभाष्य 1.1.1.

4. महाभाष्य 1.2.58, वार्त्तिक 7

5. महाभाष्य, त्रिपादी, पृ. 23, ब्रह्मदत्त जिज्ञासु का हस्तलेख पृ. 18, पूना संस्करण।

6. महाभाष्य 1.1.1

7. 'उत्सर्गापवादौ, कश्चिदुत्सर्गः कर्त्तव्यः कश्चिदपवादः कथं जातीयकः पुनरूत्सर्गः कर्त्तव्यः कथं जातीयकोऽपवादः । सामान्येनोत्सर्गः कर्त्तव्यः तद्यथा 'कर्मण्यण्' [अष्टा 3.2.1.] तस्य विशेषेणापवादः, 'तद्यथा आतोऽनुपसर्गे कः' [अष्टा. 3.2.3]'। महाभाष्य 1.1.1

8. 'नैवेश्वर आज्ञापयति, नापि धर्मसूत्रकाराः पठन्ति, अपवादैरूत्सर्गा बाध्यन्तामिति । किन्तर्हि, लौकिकोऽयं दृष्टान्तः । लोके हि सत्यपि संभवे बाधनं भवति । यद्यथा-ब्राह्मणेभ्यो दधि दीयतां तक्रं कौण्डिन्यायेति, सत्यपि संभवे दधिदानस्य तक्रदानं निवर्तकं भवति एवमिहापि।' महाभाष्य 1.1.47

9. अ- 'लोकतोऽर्थप्रयुक्ते शब्दप्रयोगे शास्त्रेण धर्मनियमः'। महाभाष्य 1.1.1,
आ- 'अर्थस्य शास्त्रादन्यो लोकस्तत्प्रमाणत्वात्' । काशिकावृत्तिः 1.2.56
इ- 'लोकादेव शब्दे अर्थे तयोः सम्बन्धे च सिद्धे अर्थबोधनाय शब्दप्रयोगेऽपि प्रसक्ते गवादय एव प्रयोक्तव्याः न तु गाव्यादय इति नियमार्थं शास्त्रम्।' शब्दकौस्तुभः 1.1.1., पृ. 29
इ- लोक्यते येन शब्दार्थः लोकस्तेन स उच्यते । व्यवहारोऽथवा वृद्धव्यवहृतपरम्परा।। उद्योत 4.1.3

10. कात्यायन श्रौतसूत्र 1.3.31,

11. वही, 1.3.32

12. वही, 1.3.33

13. वही, 1.3.34

14. मनु. 2.36

15. मनु. 2.37

16. उत्सर्गेणापवादेन, ऋषिभिः कपिलादिभिः।
अध्यात्मचिन्तामाश्रित्य, शास्त्राण्युक्तानि भारत।। महाभारत

17. परिभाषेपेन्दु शेखरः, परिभाषा 58.

X

TEMPORAL ROOTS OF NORMATIVE SYSTEM

CHHATRAPATI SINGH

I : THE SOCIAL CONCERN

Time, like the concept of space, matter and the nature of the self, has been a subject of deep reflections since eternity. The presumption that one may begin unfolding or explaining some new dimension of this concept now may certainly seem dubious. Yet, when one is confronted with the fact that even now when serious issues about time arise in practical life, specially in law and morality, the physicist's or the metaphysician's analysis are of little help, one is left to wonder whether the philosophers and physicists have been dealing with a different notion of time that has little to do with ordinary life, or whether they have provided an incomplete explanation of the notion. Epistemological economy would suggest that it is unlikely that there should be different conceptions of time. The explanation of the fact, such as that scientific and philosophical analysis of time have been of no help to the lawyer's concern, lies more probably in the fact that the analytical enterprise is incomplete. The philosophers and the scientists have just not given sufficient consideration to the problematic from the point of view of the social arena, specifically the legal arena. This is not to say that the legal arena is the only significant arena of the social realm, but only that this realm focuses and crystallizes the issues that are inherent in the whole social realm, in a way where decisions not only have to be necessarily taken but they also become a part of an objective public consciousness open to review by everyone. The legal arena thus stands in total contrast to the individual psychological arena, and legal consciousness, therefore, becomes a very significant aspect of whatever one may wish to call social consciousness. Any analysis of the concepts in the social realm, hence, cannot afford to ignore that aspects of the realm where the concept plays the most significant role.

One cannot, of course, expect scientists, and specially physicists, to deal with the social notion of time, and moreover, of being informed of the problems as they arise in law and morality. The charge here is not of being unaware or unreflective, but of the fact that when they deal with the notion of time, such as in theory of relativity, quantum mechanics or cosmology, the assumption seems to be that they are dealing with *the* notion of time, whatever that may be. The grounds on which the natural scientists' restricted interest can be explained away, do not, evidently, apply to the philosophers since they are supposed to perceive issues in their totality.

However, philosophers who have reflected on the notion of time, seem to have, by and large, confined their attention to the issues as they arise in physics, mathematics or cosmology. Some have gone beyond these to psychology, but that is where the limit is usually drawn. The legal and the moral realm, which are the crux of the social realm have been of little interest. We shall see subsequently the various scientific and philosophical accounts of the notion of time in some detail, and also the possible reasons for why the area of interest has been limited in the manner it has been. But having said this much it is first necessary to show that there is in fact a genuine area of legal and moral concern about time where problems arise in ways which are different from those involved in natural sciences and mathematics. Without this the basic assertion that the concept of time has not been dealt with exhaustively remains vacuous. The typical questions about time with which physicists and philosophers have been concerned are of the type: Is time real? Is it absolute or relative? Is it a duration, a point or a flow? Is the flow a myth? Does it progress linearly or is it cyclical? What does irreversibility of time mean? Is time-travel possible? Why are there no traces of the future? And so on. Notice the totally different type of questions that arise in law and morality, and for all of us in ordinary social life since we are moral agents: Is this the proper time to do X ? Was X done in the right time? Can this much time be said to be sufficient for X? Is it too early? Too late? Too much? What amount of time can be said to be enough to establish the truth of X, or the claim for X, and why? In how much time must the claim to X begin or cease, and why? By what criteria must the sufficiency here is not the same as that of duration. This notion of sufficiency *(paryāp*¨ is the notion of a duration which is internally complete. The question, therefore, what makes duration complete or incomplete and what sort of notion of time is involved here, is a very important one for social life - one which has not been addressed by scientists or philosophers. Lawyers talk of the notion of sufficiency or inadequacy of time in terms of 'reasonable time'. The jurisprudential question, hence, can be frames as: what makes a particular duration of time reasonable or unreasonable, is it a matter of mere social convenience or is there something in the nature of time itself which qualifies it thus? To explicate the issues further, let us turn to see the significance of some of the above questions in the context of some actual social occurrence.

II : THE NORMATIVE CONCEPTION

There is a wider normative conception of time which is involved in various social structures and institutions. For example, in communication certain formal greetings or statements are appropriate at only certain times, and they may also be indicative of the time, 'Good Morning', for instance. At a more restrictive level, and with a lesser contingency people may structure acts in time which are not merely statements but a whole series of acts. Indian classical music, for instance, is a good example of this. Particular *rāga-s* are to be sung only at specific times of the day. These examples would suggest that the relationship of time to the acts is only a contingent or external one, the structure itself does not demand a necessary

relationship. A greeting would still be a greeting even if not said at the appropriate time, and *rāga Bhairava* would still be *rāga Bhairava* even if not sung early in the morning. Let us turn, therefore, to look at other types of social structures where the relationship is not external and not so contingent. The best examples of such structures are games.

In games what will count as an event or an occurrence is limited by time. The act of shooting a goal, for example, will not count as a goal if it occurs even a second after the closing whistle has been blown. The act of throwing or pitching a ball will not count as an act of bowling unless it is done while the time that the umpire has indicated as the time for bowling is on. Such temporal constitution of acts - where the act is a particular act, only if done within a certain time, may once again be thought to be a matter of social convenience, for one may argue that although the acts are temporally so construed, it is not necessary to perform those acts. The temporal necessity is conditional, that is, if one wants to play the game, but one may choose not to. Nonetheless, one will have to still accept the conditional necessity as a part of the internal logic of games - where a set of acts cannot be constituted as a game if it is not constitutively delimited in time. Are there acts in social life whose characterization as a particular act is such that their constitutive temporal structures are not matters of social convenience, and where the necessity to constitute it in particular temporal limits are unconditional? In other words, are there acts which must not only be construed in particular time, like games, but where there is also a necessity or obligation to do the acts, such that one does not have the choice not to do them, unlike the games? There indeed are, and such acts are precisely those which fall within the domain of law and morality.

But before we take up a review of this domain, it will be important to briefly remark on one aspect of the game situation, the situation in which the logic of games is stretched to real life. This can be done in both positive and negative ways to enrich life. The point here is not to evaluate or analyse this extension, but only to point out one specific peculiarity. One may stretch the conditional necessities of games to ordinary life, and define particular acts as specific acts only when constituted within a certain time - as we do in astrology (*Jyotiḥ Śāstra*). For example, a set of acts could be defined as constituting 'marriage' only if done within a certain *lagan* (celestial arrangement of stars and zodiacs at a particular time). Or we may define 'auspicious' or 'inauspicious' times for construing other acts. Astrology, in this respect, is nothing but stretching and applying the temporal constitutive conditionalities of games to real life, and thus making life to be like a game. [A goal is a goal only if done within this time period; a marriage is a marriage only if done within this time period!]. All life, of course, is not like a series of games. The reaction against astrology, in a deeper sense, is a reaction against attempting to treat life as a matter of conditional contingencies. Often, the question in real life is not - 'if you want to play the game of life then do X' - at certain times one is just compelled or obliged to do X, these are the times which law and morality usually look after.

III : THE MORAL CONCEPTION

A simple way to comprehend the unconditional temporal constitutions of acts, with which law and morality are concerned, is to review some specific illustrations. Consider, for instance, the following cases: an under-trial has languished in prison for ten years, when the trial finally takes place it is found that he deserved imprisonment only for two years, (such a situation is not far-fetched in modern Indian law); a child is unable to get the affection of one parent and kept bereft of the benefits of the wealth of the other because the courts took fifteen years to decide the divorce case and determine the rights of the child and those of the parents, (such cases too are not uncommon in India law); a man could not claim his father's property because the will was contested by the trustee with whom the father had left the property, the man lives as a pauper and dies of poverty, and only after many years of forensic research the police and the courts decide that the property actually belonged to the man and not to the trustee who enjoyed it. All these cases are instances of the well known juridical maxim 'justice delayed is justice denied'. The maxim is not merely an imperative telling one to do justice in time, it is a descriptive definition of what constitutes justice, namely that only those acts which are done within a certain time framework can be described as just acts, and not merely if the eventual judgement or acts are right. The obligation to constitute one's acts necessarily within a time frame is an unconditional one, if it is to at all count as just; and the obligation to do justice is also unconditional, certainly within the legal framework. The notion of justice, we see therefore, involves or entails the notion of time; and the notion of time, conversely, is evidently, as much a moral and juridical notion as a physical one. Time, as a moral notion, limits and constitutes what can and what cannot be called a just or a moral action. Just acts are constituted in such a way that time enters into the very essence of the act, and like games it can be called that act only if done within that time frame, but very much unlike games the time framework is unconditional, not a matter of social convenience, and the doing of the act is also unconditional. This moral aspect of the nature of time seems to have completely eluded the scientists' and philosophers' examinations of the nature of time. We shall subsequently see why this has been so, here let us proceed to a more detailed review of the legal framework, since in law time does not appear only as a moral concept, there is another very important aspect of it which will become apparent only after consideration of the details.

IV : THE LEGAL CONCEPTION

Besides the factor of time at the very basis of the notion of justice, which determines what can be called just, there are at least three other ways in which considerations of time play very important role in law; these, in legal terminology, concern prescriptions, limitations and evidence. The laws of prescription determines the duration of time which must elapse before a right or an entitlement can be recognized in law, the law of limitations prescribes the limit of time after which a

suit or a proceeding cannot be maintained in the court of justice, and the temporal aspects of the law of evidence determine the time limit within which something can or cannot count as evidence in the court.

Prescriptions is the most ancient temporal aspect of law. We find the principles recognized in the ancient laws of the Athenians, Romans and the Indians.[1] The notion of prescription is a counterpart to the notion of property. How long must one till a land to claim property rights over it? How long must one have lived and used a house (even if rented) to claim property rights? How long must one have used a common water source (such as a pond, river or a stream) to claim rights to water? As regards common resources, such as natural water, air and space, in India the Easement Act, 1894, defines the rights. The time limits are defined by the Limitation Act (now of 1963, as amended, the earlier ones were of 1872, 1908, etc.). The prescriptive period of use, as regards common resources, was between 60 to 20 years earlier. The 1963 Act makes it 20 years. Prescription periods for private property is determined by various laws concerning private property, such as the Rent Control Acts, the land laws, and so on. Other countries would have similar laws for prescription. Limitation is a much later notion in law. It is mentioned by jurists such as Bracton and Plowden in the 13th century, but the earliest statute of limitation is that of Henry VIII. The more exact ones, however, are those of the nineteenth century, such as the Real Property Limitation Acts (1833 - 1874) in England. In India the Limitation Act was passed in 1859, which came into force in 1862.[2] The rules of limitation evolved mainly from cases of tort which the ordinary contract laws could not handle. The Court of Equity in England, for example, developed the doctrine of *laches* (delays) to sort out equitable claims which involved time. Rules of limitation determine important questions of time without which justice cannot be done. Take for example, if someone turns up tomorrow with a genuine deed paper that one of your great grand father sold the house you have been living in for generations to the deed holder, and you have therefore to vacate, should such a deed be complied with? Or take for example, if you contracted with someone to build you your house, but he takes twenty years over it, because the time within which the house is to be built was not specified in the contract, can you sue the man? Yes you can, and in accordance with the laws of limitation the courts will determine what would be a reasonable time to fulfill the contract. Or take a third example, a woman's husband absconds, his whereabouts is totally untraceable despite best efforts, for how long should the woman wait before she can marry again? Most family laws now specify a period of seven years. There are also various cases of insurance claims of all types which require determination of time within which claims can be made. The Limitation Act in India, for example, specifies 90 days within which insurance claims can be made after accident.

The third way in which the time factor enters legal concerns, as mentioned, is in relation to evidence. In some cognizable offence, such as murder, facts discovered after any amount of time are still relevant as evidence, but in others, such as rape, the facts must be established within three hours, any proof after that is not

evidence. The Evidence Act, the Penal Code and the Criminal Procedure Code lay down strict rules about what will and what will not count as evidence after specific periods of time in different cases, and also the time period within which cases must be reported if the state is to take action or the act to be registered as a crime. In civil law, we have already seen how the elapsed time counts as proof of ownership or rights, such as to land, house or common resources. This elapsed time of use is itself the evidence for the establishment of a truth - the fact about who owns what and who has what sort of rights.

V : THE BASIS OF LEGAL CONCEPTION

Having familiarized ourselves with some of the basic ways in which the time factor enters into the very fabric of law, and hence into all structures of social life, let us pose the fundamental philosophical questions with which the jurist is faced. To begin with why should there be prescriptions and limitations on time at all? This is different from the technical legal question how much of time is reasonable or sufficient time? The question is what is the reason for there being reasonable time in any case? The traditional Islamic and Jewish laws have neither advocated nor recognized laws of prescription and limitation.[3] What is it in the Common law and Indian law traditions which has demanded such determination of time? One simple answer is that this type of limitations facilitates social order, it is a matter of social convenience and public utility. In fact this is precisely the theory which many modern texts of jurisprudence, such as of Salmond and Austin advocate. Salmond advances the belief that the laws of prescription and limitation are founded on a "presumption of the coincidence of possession and ownership" of fact and right.[4] From the fact that you are long in possession of property the court "presumes" that you are the owner of it. Austin, similarly, refers to the "presumption of a grant" of easement.[5] Such assertions can hardly be a *theory* for prescriptions or limitation, it begs the question, for the basic question for this part of law is not whether the courts must so presume (they must of course do so for operational reasons) but why must they make such presumptions in the first place. A theory must answer the why question, not merely reiterate the fact that presumption is made in the laws of limitation and prescription. Such texts, therefore, fail to provide a theory, leave alone a satisfactory one. It is true that a major part of the laws of prescription, limitations and evidence are for the sake of public convenience and order. Limiting insurance claims to 90 days, prescribing 20 years of use for easement and riparian rights to common resources or even setting the voting age at 18, are certainly matters of social convenience. As regards evidence, there can also be factual considerations, which are not a matter of convenience but necessity, such as the fact that the evidence will most likely not remain after three hours in the rape case. But as we have seen, not all cases of time consideration are a matter of mere convenience or utility. Gross injustice will result if too much, too little or indefinite time is permitted. Take the case of the woman whose husband is absconding, and who is presumed to be permanently missing or dead only after seven years. In a sense even this seven years

of necessarily waiting seems unjust, but consider if she had to wait indefinitely and could never remarry. That would surely be injustice to her. The law determining the time in this case is not merely a matter of convenience but mainly one of doing justice to her and also giving the missing man a just opportunity. Authors of legal texts, such as Salmond, Paton and Austin, whose books are now used as standard texts of jurisprudence in law, have seem to have totally forgotten the basic reasons for which the laws of prescription and limitation arose in the first place. They evolved to deal with unfair claims, avoid injustice to individuals due to unfair delays, to determine reasonableness of contracts in terms of fair or just time required to fulfill the contracts. The doctrine of *laches*, it must be remembered, was evolved by the Court of Equity and not the ordinary civil or criminal courts. Nineteenth century Common law jurists, such as Blackburn, would in fact give an outright moral justification for the laws of limitation by citing the basic Roman law maxim (a moral principle) which is at the base of this type of law, namely: *Vigilantibus et non dormeintibus lex succurrit* (justice is done by protecting the diligent and not the indolent). A man who has negligently slept over his rights for an undue length of time will not be allowed to litigate in respect for them; and a person who (without any fraud or breach of trust) has been in the enjoyment or property, or of a right, or of an immunity from a demand by another, for a period of time, will be allowed to enjoy them for ever in peace. These principles laid down in cases such as *Marquis Cholomondley* v. *Lord Clinton*,[6] (1820), around the very beginning of the codification of the laws of limitation, are evidently in consideration of what constitutes justice and not convenience. Even *Smith* v. *Clay*[7], in which Lord Ca᠎ den of the Court of Equity gave birth to the doctrine of *laches*, speaks in terms of human conscience, and does not put forward a utilitarian theory.

VI : TIME AND NORMATIVE TRUTH

Let us summarize the main features of the concept of time that we gather from the discussions so far. First we notice that time can be related to social actions, events or facts both externally and internally. When it is related externally time limits do not bind the very possibility of doing justice. Law merely recognizes a certain time period as a matter of social or economic convenience. Such is the case in determining the age for voting or recognition of easement rights. However, when time is related internally to the doing of justice, the very possibility of doing justice demands it must be done within a reasonable time period, as is the case in criminal trials, determination of reasonable time for the fulfillment of certain types of contracts, and realization of the rights or remedies for the suffering, underprivileged or victims. This internal relation of time to justice makes time a juridical, and hence, an essential part of social morality. This moral aspect of the concept of time is, as we have noted, what has been missed in the physical or psychological analysis.

The second equally important aspect of the concept of time, which such analysis miss out, and which would be evident in the forgoing discussions, is the

relationship of time to truth or evidence. In the social structure time itself is a proof, and hence a criterion, for the recognition of a truth. If you have lived in a house for more than twelve years and paid your rent, it is true that you have an occupancy right; if you have used a natural water resource for more than 20 years the time period elapsed becomes a proof for the truth of the statement that you have a right to continue to use it. This notion of temporal proof, it must be noted, is very different from the way in which time enters into scientific or mathematical proof. In science something is true if it can be repeated in time, in exactly the same way. The predictability criterion assumes the non-interference of time as a factor of change. Mathematical proofs, on the other hand, are supposed to be totally independent of time, not only in the sense that they are supposed to be true at all times (*kālanirpekṣa*), but also in the sense that how much time it takes to prove a mathematical fact should not effect the truth of that fact. Imagine the absurdity of the statement, if it were to be made, that the pythagoras theorem is true only if it can be proved within a hour and a half, or if it has continuously been proved so for 20 years. But this is precisely the situation we face in the normative realm; an act claimed to be a goal is a goal only if made within the hour and a half of the game time, a possession claimed to be owned is owned only if 3, 12 or 20 years have elapsed, an accident is recognized as an accident only if reported within a certain time, a forced intercourse is a rape only if registered within the limited time, and so on. Evidently, the fact that time itself can become a criterion for a truth reveals an additional feature of the concept of time, which is not available when one looks merely at the physical, mathematical or the psychological realms. It is important to distinguish what is being said about the notion of time here from a common understanding of it, which is reflected in sayings such as : only time can tell the truth. Here time and truth are not independent, time is the truth, it does not tell it, it is the basis or the criterion for what can be called truth. In statements like only time can tell the truth, what is being referred to is the physical durability or continuity of a process or a fact which already exists, the very existence of the fact is not being defined in terms of a duration of time.

The two additional aspects of the concept of time that we have noted so far - that it is a concept of morality, and that in a theory of evidence or proof (as well as in practice) it works as a criterion for truth and hence knowledge, in the social realm - does not of course take away from any of its property that is discovered in an analysis of the role of the concept in the physical realm, namely that it is a duration, it flows, it is irreversible, it is cyclic, it is relative, and so on. Why then have the scientific and philosophical analysis missed out on these aspects of the concept of time? One obvious reason, as suggested earlier, is that they have neglected the social, moral and the legal realm where these other aspects would have been discovered. But then, the question still remains, why have they neglected them, so let us now turn to take a closer look at the manner in which the concept of time has been hitherto analyzed.

VII : THE IDEAL OF THEORY CONSTRUCTION

Let us begin by understanding why the scientist's and philosopher's analysis of time has failed to illuminate the lawyers problems with time. To begin with, philosophers and scientists seem to build their theories around events or objects, the lawyer's and historian's concern, however, relate also to persistent states which do not seem to find any place in the philosophical and scientific analysis of time. Moreover, the lawyer is not only concerned with positive happenings but also equally with the failure of events to happen, that is, omissions of human acts at proper times are just as important to him as commissions of acts or happening of facts. This non-happening of events in time, once again, are of little interest to the philosophers. The most serious problem, however, is different in nature. The lawyer is primarily concerned to make truth-value statements about *particulars*, to establish that on some particular occasion some particular occurrence preceded the other and led to it. This type of concern is not only true of law but also of history, political science, economics and even ordinary social life. In the case of law, however, such statements are of utmost significance because in most cases someone's life or property, or even punishment to someone, may depend upon the truth of the statement. The lawyer's characteristic concern with the temporal or causal connections between events is not to discover the general patterns amongst the events or occurrences, but is often to apply generalizations, which are already known or accepted in the statutes or legal principles, or which may even be platitudinous. In this regard the statements made by lawyers, and in social life in general, are singular statements identifying in a complex situation certain particular events or causes connected to other events or causes in specific temporal relations.[8] In contrast, in the natural sciences, by which so much of the philosophical discussion of temporality has been influenced, the focus of attention is the discovery of generalizations and construction of theories. Since Hume European philosophy has been dominated by the doctrine that the generalization of law, which is the prime business of the experimental sciences to discover, constitute the very essence of theory construction.[9] Theory construction, under this dogma, consists of finding out and demonstrating how from a given set of particular facts one can construe a theory which will explain all such possible occurrences. It is not as if theory construction is not involved in law, history or economics. The point of theory construction in the social disciplines is, however, precisely the opposite. Starting from a set of general laws, principles or hypothetical rules, which apply to all possible occurrences under the laws, theory construction demands that one must demonstratively construe a theory which will explain the existence of the particular. For example, if one knows the general principle of tort law: everyone is strictly liable for a dangerous entity kept on his premise, demonstration would demand showing how something for which there is a liability in all such possible cases, also existed in the case of Bhopal gas leakage. A theory of tort law should be able to explain how one moves from the general to the particular. The basic thing one needs to understand is that there are two types of theory construction, one which shows how what actually happens is possible, this is what natural sciences deal with, and the other which shows how

what is possible becomes actual, this is what the social sciences and specially the legal science deals with. In possible worlds language, the natural sciences deal with the relationship of all possible worlds with this actual world, whereas the legal science (certainly amongst other social sciences) deals with the actualization of this existing world amongst all possible worlds.[10] Just as discovering and explaining generalizations is a difficult task for theory construction, discovering and explaining the process or reasons for actualization or individualization of general principles is an equally difficult task.

There is another major issue which needs to be taken into consideration when one takes into account the two different types of theory construction. This concerns exceptions to the general rule or law. In natural sciences the basic epistemic assumption in theory construction is that once one has arrived at a general law there must be no exception to the law in principle. If there are exceptions then the theory (which employs the general laws) is either wrong or incomplete. In social sciences, on the contrary, and specially in the legal science, the basic epistemic assumption is that there will be exceptions to the general rule or law, when one moves from a generalization to its individuation. The existence of exceptions to the rules does not invalidate the general rule. For example, even though there may be a general law that everyone has a constitutional right to freedom of expression, there may be cases when a particular person does not have this right. One's right can be suspended or one may have lost the right. The exception to the rule does not invalidate the legal theory that in a legal system one of the basic general law is that right to freedom of expression is guaranteed. Such a theory construction which begins with the assumption that there will be exceptions to the rule must naturally employ other heuristic principles, such as closure rules to allow for the implementation of the theory. Closure rules are those rules within a theory which tell which way the system must proceed when it comes up against an exception. For example, one of the closure rules in legal theory is : the courts are forbidden to leave any case undecided (that is, no judge is allowed to declare his ignorance of the law or facts, or state that the law and facts on the matter cannot be found, and hence refuse to pronounce a judgement on the matter), but given the closure rule the judge is obliged to generate a law on the issue from within the system. This is not the occasion to go into the details of legal logic. The point of this illustration is only to bring out the major difference in the two types of theory construction in relation to exceptions to the rule.

The reason why theory construction has been misunderstood in the Greco-European tradition, as being only about the discovery of universals or generalizations, seems to be partly Platonic and partly Cartesian. Plato made all search for true knowledge to be a search for the universal forms. In fact he even made the understanding of morality and justice depend upon understanding *the* form of Good and *the* form of Justice.[11] Descartes' enterprise made mathematics the ideal model for all sciences - the queen of sciences, in which the establishment of universal principles which applied in all possible worlds at all times became the sole purpose

of the scientific enterprise.[12] The impact of Platonic philosophy was that all particulars became *mere* instance of the universals, which in epistemological terms meant that they were inferior in value and hence less deserving of attention. The devastating impact such an epistemic attitude would have for theory construction in social sciences should be evident. Aristotle, the founder of natural sciences, carried through Plato's epistemic bias by making the discovery of genus and species (universals) the major criteria for scientific enterprise and theory construction. The impact of the Cartesian philosophy has been that the hull mark of theory construction has become the discovery of general principles which apply at all times, like the principles of mathematics and logic, and are therefore in a sense timeless (*kālanirpekṣa*), whereas we have seen that not only the legal science and the social sciences but the very concept of justice is time bound (*kālasāpekṣa*). The principles of justice demands that in reality justice can be said to have been done only if it is done within a specified time period. Any theory of justice must hence, account for this temporal aspect of the concept of justice. In most theories of justice in the Greco-European tradition, including the contemporary ones, time does not figure at all as an aspect of the concept of justice.

VIII : THE CONSEQUENCES

The devastating impact that the Platonic, Aristotelian and the Cartesian beliefs about theory construction has had on Greco-European philosophy is evident in the fact that even now, about two thousand year later, the recent best-seller about time and the universe, Stephen W. Hawking's *A brief History of Time*[13] exhibits absolutely no understanding of the fact that time is a moral concept or that it has something to do with the establishment of truth concerning rights, claims and evidence. Hawking's worlds, whether they be symmetrical or asymmetrical, irreversible or linear, are all morally neutral, morality of time does not figure in the worlds at all. He perhaps needs God only for explaining the Big Bang, the initial moments of the universe, not for explaining why justice needs to be done to all creatures in appropriate or requisite time. Hawking's history of time is clearly not the history of the universe as we know it in law, morality or ordinary social life, where the value of time is not merely a matter of objective measurement or relative frames of reference, or even one of subjective feeling or intuition of duration, but time itself is an objective social value.

Hawking's assumption that all that needs to be said about the nature of time is only what the natural sciences and mathematics are dealing with, is evidently a more recent expression of the dogma that has continued in the Greco-European tradition since the ancient Greeks. Zeno, puzzled by the continuity of time, rejected the view that an extended time interval could be composed of timeless instants.[14] St. Augustine, being impressed by the lack of analogy between spatial and temporal measurements (- you can measure length of a stationary object in relation to another, but you cannot measure a running time in relation to another because there

is no common stationary point to relate) accepted the reality of only the present (stationary) moment, and thereby rejected any idea of the flow of time.[15] This, so called myth about the flow of time, was later accepted and explored by many other philosophers. Later Locke attempted to rehabilitate the notion of the passage of time by making duration and not moment the fundamental character of time. Duration, according to Locke, is a fleeting extension.[16] But such extensions, of course, cannot be objectively observed, Bergson, who accepted only the notion of duration (*duree*) to be fundamental and real, had to, therefore, assert that this duration is a subjective matter which can be grasped only intuitively, what we measure outside is a matter of intellectual construct.[17] Some later philosophers, such as McTaggart and Bradley simply rejected the reality of time, both of its duration and moments.[18] What is common to all these explorations is the Cartesian and Platonic background of theory construction, which made the physical world and sciences about it, and mathematics, the ideal models and the context for questions relating to time. If law or the legal science had been the paradigm of the ideal type for theory construction, the type of questions about time and their answers would have been very different. The fact that a social science, such as the legal science could never become the ideal type or paradigm in the Greco-European heritage, has created a cleavage between theory construction and generalization in science and theory construction in the application of general rules to social life, since the ancient Greco-Roman times. The development of Roman law and jurisprudence occurred almost independently of Greek or Roman philosophers. In fact, Plato himself failed to notice that his own atemporal theory of justice, developed in the *Republic* and *Dialogues* proved of no use to him when it came to his drawing up the Athenian Constitution and writing the *Laws*. It is due to the same hiatus - on account of wrong assumptions about theory construction and ideal types, that most subsequent philosophies about time in the Greco-European heritage has continued to be of little use to the lawyer's concern, or to any concern in pursuit of justice.

IX : THEORY CONSTRUCTION IN INDIAN HERITAGE

This is not the occasion to discuss the history and philosophy of theory construction in India. But a few important remarks may not be out of place to bring into relief the sharp contrast between the Greco-European and the Indian tradition. In the Indian tradition of jurisprudence the temporal nature of *dharma vidhāna* (the *kālasāpekṣatā* of the establishment or doing of justice) has always been accepted as a basic principle. No theory of justice, moral good or the teleology of human life has, therefore, sought general atemporal principles which would be independent of time or could apply at all times. All theories of *dharma*, whether at the individual or the social level, have talked of the moral or legal rules or concepts as applicable at different temporal stages of life (*varṇa-āśrama dharma*), different social times, (*āpata dharma*, during wars, for example), and even *sāmānya dharma* (principles applicable to all) are bound by *yuga dharma* (*dharma* for particular ages or eons).[19] It is also important to note that in Indian tradition *Gaṇita* (mathematics) was not taken

as the ideal type for theory construction as in Greco-European tradition, in fact no discipline has had an epistemologically superior status. If one were to be selective one may suggest that theory construction in linguistics (*Vyākaraṇa*) has had a somewhat favored position.[20] As a consequence, unlike in the Greco-European tradition, in India there has been no cleavage between theoretical sciences and practical sciences, between cosmology and social philosophy, or between theory construction in mathematics and theory construction in linguistics or music. *Dharmaśāstra* (jurisprudence), therefore, continued to be closely influence by *Nyāya* (logic), *Mīmāṃsā* (hermeneutics), *Vyākaraṇa* (linguistics) and other sciences. In fact, some of the most important aspect of jurisprudence, such as the nature of legal propositions (*vidhi-vākya*) are dealt by logicians (Gangeśa, for example, in his **Tattvacintāmaṇī**), or linguistics (Bhartṛhari, for example, in his **Vākyapadīya**), or in *Mīmāṃsā*, by Jamini, for instance.

Besides the inter-disciplinary flexibility, the constructivist approach to theory construction also provided sufficient logical space for the problems concerning exception to the rules of the theory. Pāṇini's theory of grammar, for example, classifies various types of *apavāda* (exceptions), including the *sāmānya apavāda* (general exceptions). The linguistic theory (in Pāṇini's **Aṣṭādhyāyī**) itself provides rules which will demonstrate or accommodate the exceptions. The logic of *apavāda* was also well known to the *dharmaśāstra*, *nyāya* and other disciplines, which evolved their own unique ways of dealing with the matter.

What has been said above concerns the traditional Indian law and social sciences. The modern Indian law and social theorization, being either a product of the recent colonial past, or being still heavily influenced by the intellectual enterprise of the Greco-European heritage, suffers from similar malaise as those of the Greco-European heritage. The view expressed in this work, however, attempts to re-establish the Indian view, and also claims to be the appropriate view from within the perspective of law, morality and social structure, wherever they be. This implies that this would also be the view implicit in proper Greco-European law, although not in Greco-European philosophies or social sciences. The cleavage would remain in the Greco-European heritage so long as theory construction is differently understood.

X : THE TEMPORALITY OF JUSTICE

Before this discussion on the concept of time is concluded, there remains one crucial question that needs to be considered. Although one may understand and accept that time is a moral and an epistemic concept concerning the validation of truth, one may still want to know why in the social realm the concept of time has such properties, more specifically, why, for example, is the concept of justice internally constituted and bound by the concept of time? The answer to this question will take us into metaphysics, and is not really essential to the purposes of this paper,

since its major intent has been to merely describe the concept of time, and the reasons why it has not been hitherto so described. However, since a rational answer to this why question may help in deepening the conviction in the concept of time described here, a brief solution may be ventured. This part of the argument is, however, independent of the rest of the characterization of the notion of time. Others may find different and more plausible answers for why the concept of time shows these characteristic in the social realm.

To outline the answer Kant's epistemology may be usefully employed here. A detailed argument must, of course, also show that Kant's epistemology is indeed useful for dealing with this issue. But for the sake of the limited purposes here this will be presupposed. To counteract Hume's skepticism about our knowledge of the world Kant had argued in his *Critique of Pure Reason* that our knowledge of the external world does not occur by the information from the external world merely impinging upon our mind.[21] The mind has an active role to play, it constructs the incoming data into meaningful bits so that they become information for us to make sense of. Hence, there is no grounds for skepticism, because our understanding of the world is, in a sense, our own construct. The reason why the mind is able to perform this task, Kant argued, is because it has its own categories and rules of understanding which it is able to employ on the sense datum. Amongst such categories (which Kant called 'categories of pure reason') are the concepts of space and time, and amongst rules which make possible our knowledge of the external world, there are those such as : every event has a cause. Kant called such rules 'synthetic *a priori*', synthetic because they synthesize data and *a priori* because their truth or correctness cannot be proved by any reference to the external world, they must be presupposed to make sense of the external world. On this view then, we do not see space or time, the mind must necessarily perceive things *in* space and time. The mind orders and places things or events in time, it does not see time as a separate something in the external world. Similarly, the mind does not deduce by inference that every event has a cause, it must presuppose and employ the principle to make sense of the knowledge of the world.

This is a simplified version of Kant's complex philosophy, but it will suffice to make the essential points here. Now think of the question what would be a person's or his mind's role when it comes to the social world, or his knowledge of the social world? The social world, which consists of institutions like parliaments, schools, jails, posts such as the prime minister, president, professor, human acts like voting, bowling, litigating, and so on, is something which is not just given there in-itself, like the physical world which we merely need to understand and use, it is something that we have ourselves constructed *ab-initio*, however old the history may be. This construction of the social world is certainly different from our constructing the understanding or knowledge of the physical world. In the later case the mind merely constructs the understanding, but in the former case the mind must have to actually construct the world and not merely its understanding. What roles then do the

categories of reason and the synthetic *a priori* propositions play in the construction of such a world?

Kant clearly realized that besides the mind's role in the understanding of the physical world, it also had a role in practical life. He designated this role as pure practical reason and went on to write his second *Critique of Practical Reason*, in which he sought the synthetic *a priori* principles (of law and morality) which are employed in the social world.[22] However, Kant never really worked out the details of epistemology and the metaphysics of the social world, in the manner he had done for the physical world. He confined his attention to some issues of morality and law. He did not, for example, pose the question: what role do the categories of reason, such as of time and space, play in the working of practical reasons; or how are the synthetic *a priori* principles of pure practical reason operationalized in the construction of the social world (in the noumenal world, as he called it, in contrast with the phenoumenal world).[23] In a sense he does not seem to have even clearly realized that there must be synthetic *a priori* principle of practical reason, just as there are those of the pure reason. He may have perhaps assumed that having worked out his epistemology in the first *Critique* there was no further need to worry about the realism of practical reason and its operation in the social world.[24]

In fact, Kant had worked out his basic ideas of time and space much before writing his first *Critique* in his Inaugural Dissertation: *Disputato de mundi sensibilis atque intelligibilis form a et principis*, in which he had taken Newtonian view of time. The *Critique or Pure Reason* is more concerned with how the mind can generate and reconcile with the opposing views about world with reference to time, namely that the world has both a beginning in time and that it does not, what he called the thesis and the anti-thesis about time. The *Critique*, in a sense, does not add anything more to the concept of the time than what was discovered in the *Inaugural Dissertation.* Here Kant's view on time suffers from the same problem as of other Greco-European philosophers of making physics (Newtonian physics in his case) the ideal type for the context of discovery about the nature of time.

For the purposes of our present work, however, it is not Kant's concept of time that is required here, but only the framework of his epistemology. The epistemology too, as noted, needs to be developed in detail for the social world, its brief extension can, however, suffice for the immediate purpose. If there be categories of reason and synthetic *a priori* propositions, their role in practical reason would be to actually *in-form* the social world, that is, to give it a form, and not merely to inform our understanding of the world.[26] This is because the social world is our own creation, and to create it we would need some basic heuristic and ordering rules and categories. These categories of practical reasons would, hence, play a constitutive role in the very formation of social structures. (That is, they would be the basis on which the structures would be constituted). We see, therefore, that the categories and basic rules of our mind play a very different role in the social realm than they do with reference to the physical realm. To mark the differences between the

categories and the synthetic *a priori* principles of the physical and the social worlds, they would have to be designated somewhat differently. The synthetic *a priori* principles of the social realm could, for example, be designated as 'normatively synthetic *a priori*', and those applicable to the physical world as 'factually synthetic *a priori*' principles.[27]. Some example of such principles would be : for every action there is an actor : every agent is a moral agent (that is, bearer of rights and duties).

Now if time be a category of pure and practical reason, then the role it would play with reference to the two different types of world, the physical and the social, would evidently be different. We would perceive the physical world in time, but we would have to constitute the social world, and all its aspects, *within* time, if it is to at all make a meaningful or purposeful aspect of the social world. Here, constituting it in time does not mean merely letting it be in the running chronological order, over that we have no choice, it means construing that social aspect or structure in a manner such that it can be what it is intended to be only within the duration intended or required for it. The concept of justice too, hence, would have to be constituted in time, and outside that it would be meaningless. Time, thus necessarily becomes an aspect of the notion of justice, and many other social concepts and structures. This is the basic reason why in our social life time is a juridical and moral concept.

NOTES

1. See, Sandars, *Institutes of Justanian*, 7th Edn. p. 146, which describes the principles of *usucapio* and *praescriptio*. For the position in Hindu law see, *Laws of Manu* (Buhler's Translation), Chp. VIII, Arts. 145-149; and Mitra, *Laws of Limitation and Prescription*, Tagore Law Lecture, 1882, 6th Edn., pp. 19-24.
2. For the historical details of the Laws of Limitation in India see K J, Khambata, *Limitation and Prescription*. N M Tripathi and Co: Bombay. 1941.
3. *Ibid.*, p. 6.
4. Salmond, *On Jurisprudence*, 9th Edn. pp. 613-617.
5. J, Austin, *The Province of Jurisprudence Determined*, (1832). 4th Edn., p. 509.
6. *Marquis Cholmondely* v. *Lord Clinton* (1820). 2 Jac. and W. 1 at pp. 140-1.
7. *Smith* v. *Clay* (1767). 3 Bro. C.C, 639 n.
8. For a detailed account of the differences between the lawyer's problems with the notion of causation and those of the philosopher's see: H L A Hart, and T Honore, *Causation in the Law*. Oxford: Clarendon Press. 1959.
9. David Hume, *Inquiries Concerning Human Understanding*. Oxford: Selby-Bigge edn. 1946. For a detailed account of the type of understanding that has mainly influenced theory construction in the Greco-European heritage up to the modern times, see, R B Braithwaite, *The Nature of Scientific Explanation*. Cambridge. 1953.
10. For a more detailed argument of the issues about the physically possible and the normatively possible worlds that are involved here, see, Chhatrapati Singh, *Law From Anarchy to Utopia*. Oxford: Clarendon Press. 1985. pp. 121-149.

11. Plato, *The Republic*, Trans. Benjamin Jowett. Garden City, N Y: Doubleday. 1960.

12. Rene Descartes, *Meditation on First Philosophy*, and *Discourse on Methods*, in the *Philosophical Works of Descartes*. Trans. E S Haldane and G R T Ross, Cambridge, 1931.

13. Stephen W Hawking, *A Brief History of Time*. N Y: Bantam Books, 1988.

14. For a good discussion of the paradoxes of Zeno see, Adolf Grunbaum, "Modern Science and the Refutation of the Paradoxes of Zeno", in *Scientific Monthly*, Vol. 81. 1955, along with his "A Consistent Conception of the Linear Continuum as an Aggregate of Unextended Elements", in *Philosophy of Science*, Vol. 19. 1952. pp. 288-306.

15. Augustine, *Confessions*, Book XI, Chs. 14-28. Trans. by A C Outler, Vol. VII of the Library of Christian Classics. Philadelphia, 1955.

16. John Locke. *Essays*, Book II. Ch. 14, Sec. 1.

17. Henri Bergson, *Time and Free Will*. New York. 1910.

18. F H Bradley's arguments for the unreality of time are given in his *Appearance and Reality*, 2nd ed. Oxford, 1930. J M E McTaggart's arguments for the unreality of time is to be found in his *Philosophical Studies*. London. 1934.

19. P V Kane, *History of Dharmaśāstra*. Poona: Bhandarkar Oriental Research Institute. 1930-62. 6 Vols. Kane's discussion on the concept of *dharma* is to be found in Vol. 1.

20. For an account of theory construction in Indian tradition, hich presents this view in some detail, see, Navjyoti Singh, "Foundations of logic in Ancient India: Linguistics and Mathematics" A. Rahman (ed.). *Historical Perspective in Science and Technology in India*. New Delhi: Nistads, 1984.

21. Immanuel Kant, *Critique of Pure Reason*, Trans. by Norman Kemp Smith, New York: MacMillan. 1929.

22. Immanuel Kant, *Critique of Practical Reason*. Trans. by Lewis W Beck, Indianapolis: Bobbs-Merill. 1965.

23. Kant identifies the noumenal realm with the social (legal and moral realm) in his *Rechtslehre*. Pt. 1 of *Metaphysik der Sitten*. Trans. by John Ladd: *The Metaphysical Elements of Justice*. Indianapolis: Bobbs-Merrill. 1964.

24. For a detailed critique of Kant's position and the manner in which the synthetic *a priori* propositions of pure practical reason work as constitutive rules in law and morality, see, Chhatrapati Singh, *Law From Anarchy to Utopia*, pp. 91-95, 171-178, 238-244.

25. See: *Kant's Inaugural Dissertation*, Trans. by John Handyside. Chicago: Open Court. 1929.

26. For a detailed argument about the role of synthetic *a priori* propositions in constituting the social world, see, Chhatrapati Singh, *Law From Anarchy to Utopia*. pp. 59-95.

27. *Ibid.* p.92.

XI

धर्मशास्त्रीय नियमों में कालसापेक्षता

संगीता खन्ना

आचार संहिता की अवधारणा से प्रकल्पित धर्मशास्त्र स्थिर तथा सभी प्रकार के विरोधों से रहित नियमों का संग्रह नहीं हो सकता। अपने प्रयोजन की सिद्धि के लिए आपेक्षिक तत्त्वों के अनुरूप धर्मशास्त्र में परिवर्तन की अनिवार्यता स्वीकार की गयी और तदनुसार परिवर्तित संहिता व्यवहार का आधार बनती रही है। मनु स्मृति, याज्ञवल्क्य स्मृति, गौतम स्मृति, पाराशर स्मृति की संरचना परिवर्तन का ही परिणाम है।[1] संहिता की रचना दीर्घकालिक होती है, अतः एक ही संहिता में तात्कालिक प्रभाव के कारण परिवर्तन के अनेक स्तर देखे जा सकते हैं। धर्मशास्त्रीय उद्देश्य की साध्यरूपता उसे कालसापेक्षिक मान्यता से सन्नद्ध करती प्रतीत होती है। धर्मशास्त्र का प्रयोजन[2] है - धर्मानुरूप व्यवहार की निष्पत्ति के लिये एक ऐसी आचार संहिता प्रस्तुत करना, जो मनुष्य के नैतिक कर्तव्यों तथा व्यावहारिक दायित्वों का नियमन करे, व्यवहार के क्रमिक परिष्कार से मनुष्य को परमपुरुषार्थ तक पहुंचने की अधिवत्ता प्रदान करे। धर्म व्यवहारसाध्य है किन्तु परमपुरूषार्थ मोक्ष धर्मसाध्य है, इस प्रकार कहीं धर्म साध्य, कहीं साधन है। मोक्ष की परम साध्य रूप में अवधारणा से तत्साधन की आकांक्षा होना स्वाभाविक है, वह साधन है - धर्म। धर्म किसी अन्य साधन का साध्य है, इस प्रकार प्रत्येक साध्य सिद्धत्व को प्राप्त होता हुआ परम साध्य की साधन-परम्परा में विनियुक्त होता है। प्रत्येक साध्य के मूल साधन का विचार, जो स्वयं किसी अन्य साधन का साध्य होता है, पुनः उस साधन के मूल साध्यत्व रूप एवं तत्साधनत्व का विचार करने पर अनवस्था प्राप्त होने से साध्य-साधन का सम्बन्ध अनादि ही ज्ञात होता है।

धर्मशास्त्र की परिधि में साध्य रूप धर्म का स्वरूप क्या है ? क्या चिरकालिक प्रवाह में वह परिवर्तित होता है ? या वह मूल रूप में नित्य है ? इत्यादि संशय का आधार यह है कि स्मृतिकर्ता धर्म की मूलभूत प्रकृति को यथावत् स्वीकार करने के पश्चात् भी युगानुक्रम में धर्म की मर्यादाओं को व्यवस्थित करते रहे हैं।[3] इसलिये धर्म के नित्यत्व को स्वीकार करने के पश्चात् भी उसमें परिवर्तन का आभास संक्रमित हो सकता है। जो भी हो, धर्म नित्य और अपौरुषेय है। यह प्रत्यक्ष-प्रमाण का विषय नहीं, क्योंकि नितान्त सूक्ष्म अतिव्यवहित होने के कारण इन्द्रियगम्य नहीं हो सकता। धर्म अनुमानगम्य भी नहीं है क्योंकि साध्य और हेतु के बीच कोई व्याप्ति सम्बन्ध नहीं बनता। जहां तक धर्म-विवेचन का प्रसंग है, धर्म और तत्साधक हेतु के बीच सामानाधिकरण्य नहीं बन पाता । वस्तुतः यह धर्म शब्द-प्रमाण का विषय है। प्रथमतः श्रुति द्वारा ही धर्म को जाना गया।[4] श्रुति आत्म-प्रत्यायन है। प्रतिभा और अनुभूति के आधार पर जो कुछ स्फुरित होता

है, वह श्रुति है। भर्तृहरि कहते हैं - 'अनादिमव्यवच्छिन्नां श्रुतिमाहुरकर्तृकाम्'।[5] इसीलिये विचारकों ने पारम्पर्येण अविच्छिन्न उपदेश से ज्ञात धर्म का अपौरुषेयत्व स्वीकार किया है। शब्द के नित्यानित्यत्व, शब्द प्रमाण से ज्ञात धर्म के नित्यत्व तथा शब्द से धर्मज्ञानकी प्रक्रिया इत्यादि विषयों पर प्रथित मतान्तरों का उल्लेख प्राप्त है, जिसका विचार यहां अपेक्षित नहीं। श्रुतिगम्य धर्म अपने मूल रूप में अपौरुषेय है, इसीलिये नित्य है, एक रूप है। धर्म सिद्धावस्था में काल-निरपेक्ष ही है, किन्तु साध्यावस्था अर्थात् व्यय की प्रक्रिया में वह कालसापेक्ष है। धर्मशास्त्र में धर्म साध्यरूप है, तात्पर्य यह है कि धर्म निष्पादन के योग्य अथवा क्रिया की प्रक्रिया में है। क्रिया की सत्ता 'काल' के बिना शून्य मानी गयी है। 'काल' को क्रिया का अपर पर्याय कह सकते हैं, क्रिया का सारा अस्तित्व उस पर निर्भर है। 'काल' क्रिया की शक्ति है क्योंकि क्रिया के साथ काल सर्वदा अन्वित होता है।[6] अतः धर्म की साध्यरूपता या क्रियारूपता की स्वीकृति के साथ ही वहां 'काल' का आरोपण स्वीकार करना होता है। धर्मशास्त्रीय प्रारूप के अन्तर्गत कालसापेक्षता का यह प्रथम निदर्शन है।

साध्य के विनिश्चयन के साथ ही साधनाकांक्षा होने पर साध्यरूप धर्म के परिप्रेक्ष्य में साधन भूत 'नियम' का विचार प्राप्त होता है। यहाँ अवधेय है कि नियम के अतिरिक्त भी साधनान्तर प्रकल्पित होंगे, किन्तु धर्मशास्त्रीय प्रारूप-संरचना के दृष्टिकोण से विचार करने पर साध्य धर्म और साधनभूत नियम के विचार-विश्लेषण की ही अपेक्षा है।

भारतीय चिन्तन-परम्परा में धर्म पद व्यापक अर्थों में प्रयुक्त होने के कारण भ्रामक है। धर्मशास्त्रीय ग्रन्थों में धर्म पद की परिणति व्यावहारिक कर्तव्य तथा नियम के अर्थ में हुई है। वे सभी नियम जो श्रुति-स्मृति-विहित हो, आचार-प्रभव हों, समाज-धारण हेतु प्रचारित किये गये हों, धर्म हैं।[7] जिससे मनुष्य का ऐहिक-आमुष्मिक उत्कर्ष हो, वह धर्म है।[8] धर्म वह निःश्रेयस् है, जो वैदिक विधि-निषेध से प्रतिपादित होता है।[9] धर्म के सभी स्वरुपाधायक लक्षण उसकी साध्यरूपता को इंगित करते हैं तथा धर्म की सिद्धि के लिए नियम-अनुपालन की अनिवार्य प्रतीति भी कराते हैं। मीमांसाभिमत 'चोदनालक्षणोऽर्थो धर्मः'[10] यह धर्म-लक्षण धर्म की स्थापना के मूल में स्वाभाविक प्रवृत्तिपरक आचरण के समुचित प्रतिबन्ध का संकेत करता है कि 'अमुक कार्य करो' 'अमुक कार्य मत करो' । इस प्रकार प्रथमतः नियन्त्रण अथवा नियमन से ही धर्म की स्थापना हुई, ऐसा प्रतीत होता है । धर्म-स्थापना के मूल में नियम का होना धर्म तथा नियम के मध्य ज्ञाप्य-ज्ञापक-भाव सम्बन्ध को स्थिर करता है। धर्मशास्त्राभिमत अन्य धर्मलक्षणों में धर्म का नियम, कर्तव्य, आचरण तथा नीतिबन्ध आदि अर्थों में विवेचन होने के कारण धर्म तथा नियम के बीच एक प्रकार का अभेद तथा तादात्म्य ही प्रतीत होता है। अतः प्रथम स्थल में नियम धर्म का निर्धारक तथा द्वितीय स्थल में धर्म-निर्वाहक है। धर्म की मर्यादाओं को ही 'सत्य' और 'ऋत' की संज्ञा दी गयी है - 'ऋतञ्च सत्यं चाभीद्धात्'।[11] व्यवहार सौविध्य के लिये विश्व को दो भागों में विभक्त किया जा सकता है - व्यष्टि और समष्टि । व्यष्टि जीवन के धर्म या नियम समष्टि में निहित होते हैं। व्यष्टि धर्म यदि सत्य है तो समष्टि धर्म ऋत है। धर्मशास्त्रकारों ने समष्टि धर्म के मूल में व्यष्टि धर्म की अनिवार्यता को स्वीकार कर मानव के कर्तव्याकर्तव्य का विवेचन किया है।

नियम विधिरूप होते हैं। श्रुति-ज्ञात धर्म के आधार पर ही नियमों का निर्धारण होता है। धर्मशास्त्र में नियम-विधान किसी परम्परा के अनुशीलन के रूप में होता है और श्रुति के विधि-निषेध द्वारा ज्ञात होता है।[12] किन्तु कुछ नियम आचार तथा लोकव्यवहार के आधार पर शिष्टों द्वारा निर्धारित होते हैं। समाज-व्यवस्था हेतु जब अनेक परिस्थितियों में एक ही प्रकार का व्यवहार बार बार हो तथा फल की दृष्टि से धर्मानुकूल सिद्ध होने की सामर्थ्य से स्वीकृत हो तो वह व्यवहार-प्रक्रिया 'नियम' रूप में स्वीकृत होती है। कभी-कभी व्यवहार की अनुपपत्ति होने पर नियमान्तर का ग्रहण भी परिलक्षित होता है। कभी परिस्थिति विशेष के कारण धर्मानुकूल व्यवहार में सहायक नियमों के पालन से अधर्मानुकूल व्यवहार की सम्भावना होती है, तब तत्परिहार के लिये कुछ अपवाद नियम बनाने पड़ते हैं। उस अपवाद नियम में भी नियमन के लिये प्रायश्चित के नियम विहित होते हैं। इस प्रकार आचार-नियमों की संख्या-बाहुल्य से स्मृति-शास्त्र बनता है। इन स्मृति नियमों के परिज्ञान में तथा विधान में भी 'काल' आरोपित होता है। श्रुति-नियम अकर्तृक, अनादि और अनाहत होते हैं। अतः उन नियमों के परिज्ञान में कालारोपण नहीं हो सकता किन्तु वे ही नियम अपने विधान में अन्य सिद्ध कारकों से सहकृत होकर ही विहित होते हैं। व्यापार में अन्य सिद्ध कारकों की अपेक्षा से युक्त होने के कारण वहाँ 'काल' आरोपित होता है। इस प्रकार अपौरुषेय श्रुति-प्रतिपादित नियम हों या पौरुषेय स्मृति-प्रतिपादित नियम, उभयत्र विधान की दशा में कालापेक्षा होती है।

नियम में कालारोपण सामान्य-अपवाद की परस्पर बाध्य-बाधकता के आधार पर जाना जा सकता है। नियम सर्वथा एकदेशी तथा अव्यापक नहीं होना चाहिए। व्यवहार के सम्पूर्ण क्षेत्र का ग्रहण करके ही नियम प्रवृत्त हो सकता है, अतः नियम के लिये व्यापक होना अनिवार्य है। सावकाश होकर ही विधियां प्रवृत्त होती हैं। किन्तु समग्र क्षेत्र में प्रवृत्ति होने से एक ही साध्य की सिद्धि के लिये व्यवहार के दो या अधिक नियमों की प्राप्ति होती है और द्वन्द्व उपस्थित होता है। ऐसी स्थिति में या तो व्यवहार अनुपपन्न होने लगता है अथवा कर्तव्याकर्तव्यविवेक न होने से अधर्मपरक व्यवहार की सम्भावना होती है अथवा व्यवहार के द्वन्द्व में से एक पक्ष को प्रामाणिक मानने से अपर में अप्रामणिकता होने लगती है जबकि वह भी प्रामाणिक ही होता है। ऐसी स्थिति में किसी एक को ही व्यापार का प्रवृत्ति-निमित्त मानकर कार्य करना होता है ताकि द्वन्द्व का परिहार हो सके। यहीं अपवाद-नियम का सूत्रपात होता है तथा कालारोपण की आधारिकता बनती है। अपवाद विनश्चियन से सामान्य-नियम के क्षेत्र में संकोच होता है, मात्र सामान्य-नियमों से प्रयोजन निष्पत्ति संदिग्ध होती है, कभी उपपन्न होती है कभी अनुपपन्न। अतः संदिग्ध स्थिति न बने, इसलिये सामान्य के क्षेत्र में संकोच करने वाले अपवाद-नियम स्वीकार करने ही होते हैं। अपवाद निरवकाश होकर बाध करता है। अतः अपवाद का निरवकाश होना ही उसके बाधकत्व का बीज है। यह सामान्य-अपवाद के सम्बन्ध के आधार पर ही निर्धारित होता है। नियम-प्रक्रिया में सामान्य के साथ अपवाद का अन्वयन होने से 'काल' आरोपित होता है। अपवाद-नियम के आधार पर व्यवहार-सम्पादन के पश्चात् प्रायश्चित का विधान भी कालापेक्षा प्रयुक्त प्रतीत होता है । प्रायश्चित-करण अपवाद-नियम की नित्यता का उच्छेदक है। स्मृति-प्रारूप के अन्तर्गत कालसापेक्षता का यह द्वितीय निदर्शन है, जो 'नियम' की प्रवृत्ति की विधा के रूप में देखा गया है।

प्रसंगतः स्मृतिशास्त्र में इन नियमों के निर्धारण की प्रक्रिया पर विचार प्राप्त होता है ताकि शास्त्र के प्रारूप को एक ही साथ देखा जा सके। स्मृतिशास्त्र के अन्तर्गत नियम तीन स्तरों में विभाजित हैं - सामान्य धर्म,[13] विशिष्ट धर्म[14] तथा आपद्धर्म। सामान्य धर्म तथा विशिष्ट धर्म दोनों ही स्मृतिशास्त्र में उत्सर्ग-नियमानुबन्धित हैं तथा इनसे पृथक् आपद्धर्म अपवाद-नियम का अपर पर्याय है, जो सामान्य तथा विशिष्ट दोनों के प्रतिपक्ष में प्रवृत्त होता है। इन तीनों से पृथक् 'प्रायश्चित' का विधान स्मृतिशास्त्र का विशेष उल्लेखनीय भाग है।

सामान्य धर्म के अन्तर्गत उन नियमों का विधान है, जो व्यवहार के मूल में अनिवार्यतः पालनीय हैं, इनका सम्बन्ध नैतिकता से है। यह धर्म व्यक्तिगत दृष्टि से नहीं, अपितु समष्टिगत दृष्टि से विहित है। अतः मानव जाति के लिये समान है। सामान्य धर्म के अन्तर्गत मनु आदि स्मृतिकारों ने सद्‌गुणों की ही गणना की है, जो कुछ भेद के साथ संख्या में भी न्यूनाधिक है। सामान्यतया सत्य, अहिंसा, अस्तेय, शौच, इन्द्रिय-निग्रह, दान, दम, दया, शान्ति, धृति, क्षमा, धी, विद्या तथा अक्रोध सामान्य धर्म हैं। अपनी परिनिष्ठित दशा में यह नित्यसिद्ध नियम हैं, किन्तु प्रक्रिया-दशा अर्थात् विधान की स्थिति में यह नित्य नहीं रह पाते । व्यवहार में द्वन्द्व की उपस्थिति होने पर ये नियम पक्ष में तथा पक्षान्तर में उभयविध चरितार्थ होते हैं। सत्य के स्थान पर असत्य, अहिंसा के स्थान पर हिंसा का अनुमोदन करना ही होता है।

स्मृतिशास्त्र में निर्दिष्ट 'विशिष्ट धर्म' वे हैं, जो व्यवहार की निष्पत्ति के लिये देश, काल, स्थिति और पात्र के अनुरूप निर्धारित किये गये हैं। यह समाज के अस्तित्व और व्यवस्था के मूल आधार होते हैं। समाज व्यक्ति के सामञ्जस्यपूर्ण कर्तव्य-दायित्व-निर्वाह का ही प्रतिफल होता है। अतः व्यक्ति विशेष के लिये निर्दिष्ट 'विशिष्ट धर्म' व्यावहारिक धर्म है। धर्मशास्त्रीय ग्रन्थों में स्वधर्म से भी इनका संकेत किया जाता है। व्यक्ति के दायित्व और व्यवहार की स्थिति के आधार पर विशिष्ट धर्म वर्गीकृत किये जा सकते हैं - वर्ण-नियम, आश्रम-नियम, कुल-नियम, युग-नियम (देशगत नियम तथा कालगत नियम) तथा राज-नियम।

आपद्धर्म के अन्तर्गत उन नियमों का विधान है, जो सामान्य धर्म अथवा विशिष्ट धर्म के द्वारा किन्हीं विशेष अवस्थानों में धर्मपरक व्यवहार सम्भव न होने की दशा में व्यवहृत होते हैं। यह आपद्धर्म तात्कालिक स्थिति में धर्मानुकूल व्यवहार के सम्पादन के लिये ही मान्य होते हैं किन्तु व्यवहार की सामान्य स्थिति में इनका प्रवेश नहीं होता। स्मृतिप्रारूप में उत्सर्ग-नियम के साथ-साथ अपवाद-नियम की अनिवार्यता प्रयोजन की सिद्धि के लिये आवश्यक है और कालारोपण की आधार-भूमिका है।

धर्मशास्त्र में प्रायश्चित की अवधारणा भी नियमन ही है, जो दोषादि के प्रति प्रवृत्ति को रोकती है तथा किये गये दुष्कर्म के संस्कार को विनष्ट करने का साधन है। प्रायश्चित दण्ड का ही प्रकारान्तर है। धर्मशास्त्रों में दण्ड तथा प्रायश्चित दोनों का ही विधान है। दण्ड राजधर्म का एक भाग है किन्तु प्रायश्चित धर्मशास्त्र का एक अंग है। दण्ड किसी भी नियम का पालन न होने की

स्थिति में राजा द्वारा दिया जाता है, जबकि प्रायश्चित व्यक्ति द्वारा स्वतः स्वीकृत दण्ड है, जिसके द्वारा व्यक्ति द्वन्द्वों से मुक्त होकर मानिसक सम्बल प्राप्त करता है। मनु आदि स्मृतिकार नित्य-नैमित्तिक धर्म के अननुपालन की स्थिति में प्रायश्चित का विधान करते हैं तथा उत्सर्ग नियम के प्रतिपक्ष में जब अपवाद का आश्रयण कर व्यवहार होता है तदनन्तर भी प्रायश्चित का विधान है। यह विधान अपवाद-नियम की नित्य प्रवृत्ति का प्रतिबन्धन करता है ताकि पौनः पुन्येन एक ही प्रक्रिया से व्यवहारोपपत्ति होने पर अपवाद-नियम सामान्य की तरह स्वीकृत न हो सके। 'प्रायश्चित-विधान' धर्माधर्म की नित्यता को स्पष्ट करता है। किन्तु प्रयोजन की सिद्धि हेतु नियम की प्रवृत्ति के अधिकार क्षेत्र को सामान्य के प्रति अपवाद तथा अपवाद के प्रति प्रायश्चित का विधान संकुचित कर देता है तथा उन्हें रूढ नहीं होने देता।

कथित विश्लेषण से यह तथ्य स्पष्ट होता है कि धर्म के ज्ञान के साथ उसका अनुष्ठान और व्यवहार ही उसके वास्तविक प्रयोजन को सिद्ध करते हैं - 'व्यवहारमनाद्रित्य परमार्थो न सिध्येत'।[15] धर्म-व्यवहार-व्यवस्थापन के लिये श्रौत तथा स्मार्त विधि-अपवाद वाक्य मिलते हैं। प्रवृत्ति के नियामक तत्त्व भिन्न-भिन्न होते हैं, अतः मात्र उत्सर्गतः विधान से व्यवहार-सम्पादन सम्भव नहीं है। व्यवहार की निष्पत्ति के लिये अपवाद का होना अनिवार्य है । स्मृतिप्रारूप में सामान्य-अपवाद का सह-अवस्थान है। अन्यथा व्यवहारोपपत्ति के लिये प्रवृत्त स्मृतिशास्त्र का प्रयोजन सिद्ध होना कठिन होता। उदाहरणार्थ, होम, दान, याग आदि नित्यकर्मसम्बन्धी विधि होने पर भी कहीं कहीं इनका निषेध भी उपलब्ध होता है । 'अग्निहोत्रं जुहोति' कहते हुए 'दीक्षितो न ददाति, न जुहोति, न पचति' कहा गया है। नित्य अग्निहोत्र करने के लिए अधिकारी होते हुए भी पुरुष को दीक्षावसर में होमदानादि के निषेध का अनुवर्तन करना चाहिए। तात्पर्य है कि प्रतिवसन्तकाल में ज्योतिष्टोम याग को करने का विधान होते हुए भी नहीं करना भी सम्भव है - इस न्याय का अनुवर्तन करते हुए स्मृतिकर्ता को उपपत्ति करनी आवश्यक होती है। अन्यथा वेदमूलकत्व सिद्ध होने में बाधा हो जाती है। पिता के देहावसान होने पर पुत्र और्ध्व दैहिक कर्म को करने का अधिकारी माना जाता है। यदि वह पुत्र ब्रह्मचारी है तो यथावत् सपिण्डीकरण कर्म-कलाप को कर सकता है, यदि विवाहित सपत्नीक है और पत्नी देशान्तर में गयी हो या अशुद्ध अवस्था में हो तो सपिण्डीकरण श्राद्ध का निषेध स्मृतिकार करते हैं। अर्थात् पत्नी के शुद्ध होने पर या देशान्तर-प्रत्यागमन पर पुरुष उस कर्म का अधिकारी बनता है। इस स्थल में उत्सर्ग और अपवाद दोनों ही शास्त्रप्राप्त हैं। अतः मात्र उत्सर्ग का अवलम्बन कर यदि व्यवहार (अधिकार प्रयोग) किया जायेगा तो वह शास्त्रविरुद्ध ही होगा। इसी प्रकार विभिन्न प्रसंगों में युक्तियुक्त विचार द्वारा कभी उत्सर्ग का अवलम्बन कर कभी अपवाद का आश्रयण कर व्यवहार सम्पादन की व्यवस्था स्मृतिशास्त्र में की जाती है। दोनों में से एक का अवलम्बन दूसरे का त्याग होने से शास्त्रविरुद्ध व्यवहार ही होता है।

धर्मशास्त्र के अन्तर्गत श्रुति-स्मृति-सदाचार आदि परस्पर सापेक्षतया उत्सर्ग-अपवाद नियम का प्रतिपादन करते हैं । यद्यपि श्रुति बलीयसी है तथापि आचार से ही श्रुति का अनुमान किया जाता है और स्मृति तथा आचार श्रुतिक्रमानुवर्ती ही होते हैं। अतः इनकी समरूप से उत्सर्गतः

प्रमाणिकता है। अपवाद का स्वरूप-निर्धारण धर्म-शास्त्र की परिधि में विधि की प्रवृत्ति के दृष्टिकोण से तथा व्यवहारोपपत्ति के लिए मीमांसा-सरणि का अवलम्बन कर विधि की विशेष-विशेष व्याख्या के आधार पर होता है। अपवाद की प्रवृत्ति में उत्सर्ग का बाध ही प्रयोजन होता है।[16] किन्तु उस बाध का बीज तत्त्व विधि की प्रवृत्ति के उद्देश्य, व्याख्या के आधार, व्यवहार के संघटक तत्त्वों में निहित होता है। कर्ता की बुद्धि और उसके बाह्य-व्यवहार के आधार पर ही यह जाना जा सकता है कि नित्य धर्म के नियमों में परिवर्तन तथा अपरिहार्य मानकर अपवाद का ग्रहण क्यों किया जाता है? धर्मशास्त्रीय दृष्टान्तों के परिप्रेक्ष्य में इसे जाना जा सकता है।

सामान्यतया स्मृतिशास्त्र में बाध दो प्रकार का है - एक प्राप्तिपूर्वक बाध अर्थात् वस्तु की प्राप्ति होने पर उसका वारण, दूसरा अप्राप्तिपूर्वक बाध अर्थात वस्तु की प्राप्ति होने ही वाली थी किन्तु विरोधी की उपस्थिति में प्रवृत्ति नहीं हुई। जैसे - 'अग्निहोत्रं जुहोति' श्रुति वाक्य से अग्निहोत्र होम की प्राप्ति होने पर 'दीक्षितो न जुहोति' द्वारा अग्निहोत्र होम का बाध प्राप्ति-पूर्वक बाध है। 'औदुम्बरी सर्वाविष्टनीया' यह स्मृतिवाक्य औत्सर्गिक रूप से धर्म में प्रमाण सिद्ध होता है, किन्तु 'औदुम्बरीं स्पृष्टवोद्गायेत' - इस श्रुति वाक्य से विरुद्ध हो जाने के कारण उक्त स्मृति-वाक्य बाधित होकर अप्रमाण सिद्ध होता है। स्मृति-वाक्य धर्म में प्रमाण तो होता है, किन्तु किसी मूलभूत श्रुति का अनुमान करा कर। 'औदुम्बरी सर्वाविष्टनीया' इस स्मृति की मूलभूत श्रुति की अनुमानविधया प्राप्ति न होकर विरुद्ध श्रुति प्राप्त हुई । अतः श्रुति विरुद्ध स्मृति की मूलभूत श्रुत्यन्तर का अनुमान स्थगित कर दिया तथा स्मृति को बाधित माना । यह अप्राप्तिपूर्वक बाध का स्थल है।

धर्मानुष्ठान की अनिवार्यता में कालापेक्षा से भी अपवाद-नियम की स्थिति बनती है। यजमान की शक्ति जैसे-जैसे ह्रसित होती जाती है, वैसे-वैसे धर्मों में स्वल्पता आती जाती है। स्वभावतः दर्शपूर्णमास आदि यज्ञों का अनुष्ठान तीस वर्ष तक आवश्यक है। उसे पन्द्रह वर्षों में सम्पन्न करने के लिये प्रत्येक दिन दो-दो बार प्रत्येक अनुष्ठान भी विहित है। 'दर्शपूर्णमासाभ्यां यजेत' यह उत्सर्ग विधि है तथा कालापेक्षा से प्रयुक्त 'दाक्षायणयज्ञेन स्वर्गकामो यजेत' विधि कथित उत्सर्ग का अपवाद है।

विधि की प्रवृत्ति क्रत्वर्थ एवं पुरुषार्थ रूप में होती है। अतः विधि की प्रवृत्ति के इन द्विविध आयामों में जिसे मुख्यतः स्वीकार किया जायेगा, तत्तत् प्रसंग में सामान्य-अपवाद रूपान्तरण के साथ स्थिर होते हैं। वे व्यवस्थाएं जो अदृष्टफलसम्पादयित्री हैं, क्रत्वर्थ हैं, किन्तु जो साक्षात् फल प्रदान करती हुई पुरुष को सुख देती हैं, वह पुरुषार्थ हैं। सामान्य नियम है कि ब्राह्मण को दान, क्षत्रिय को विजय तथा वैश्य को कृषि आदि से धनार्जन करना चाहिए।[17] अब व्यवस्था यह है कि यदि धनार्जन क्रत्वर्थक है तो शास्त्रविहित साधन से ही होना चाहिए अन्यथा यज्ञ दोषपूर्ण होकर वाञ्छित फल नहीं देगा। यदि धनार्जन पुरुषार्थ है तो जिस किसी भी साधन से प्राप्त किया जा सकता है और उस धन से किया गया यज्ञ दोषपूर्ण नहीं होता क्योंकि यज्ञ भी पुरुषार्थ का एक भाग है । विशेष ध्यातव्य यह है कि क्रत्वर्थ का अनुसरण न करने से कृत्य दोषयुक्त होता है तथा

पुरुषार्थ का अनुसरण न करने से व्यक्ति दोषयुक्त होता है, सम्पादित अनुष्ठान नहीं। धर्मशास्त्रीय परिधि में इस विषय का स्पष्टीकरण यूँ है कि माता पिता विपत्ति के समय जल के साथ जिस पुत्र को देते हैं, वह दत्तक है।[18] स्मृति निबन्ध[19] व्याख्या करते हैं कि 'आपद्' शब्द विशिष्ट रूप से उल्लिखित है, अतः जब विपत्ति न हो तो किसी को अपना पुत्र गोद नहीं देना चाहिए। यहाँ निषेध पुरुषार्थ है, देने वाले को प्रभावित करता है। किन्तु उद्देश्य-भेद से अन्य स्मृति निबन्ध[20] ने इसे क्रत्वर्थ निषेध ही माना है।

प्रवर्तनात्मक विधि के सदृश ही निषेध विधि मनुष्य को अवाञ्छित फल के साधन भूत निषेध्य विषय से निवृत्त कराती है। 'न कलञ्जं भक्षयेत्' यह निषेध विधि है। साथ ही रागतः प्राप्त कलञ्ज भक्षण का बाध करती है। यहाँ रागप्राप्त पदार्थ का शास्त्र द्वारा बाध हो जाता है किन्तु शास्त्रप्राप्त का शास्त्रान्तर से निषेध प्राप्त होने पर बाध्यबाधकभाव नहीं होता, अपितु विकल्प ही स्वीकार करना होता है। विकल्प की स्वीकृति में पाक्षिक अप्रामाण्य होता है। तथापि गत्यन्तराभावात् विकल्प माना जा सकता है, किन्तु जहाँ अन्य गति सम्भव हो वहां विकल्प का परिहार ही युक्तियुक्त है। विकल्प-परिहार के लिये ही पर्युदास, जो अपवाद की एक व्यवस्था है, का आश्रयण किया जाता है। नञर्थ का प्रत्ययार्थ के साथ अन्वय न करके धात्वर्थ तथा सुबन्त के अर्थ में अन्वय किया जाना ही 'पर्युदास' है । धर्मशास्त्रीय ग्रन्थों में प्रायः 'न' की व्याख्या पर्युदास के रूप में की जाती है। जैसे-नेक्षतोद्यन्तमादित्यं नास्तं यान्तं कदाचन[21] वाक्य 'तस्य व्रतम्' के अधिकार क्षेत्र में पठित होने से एक विशेष नियम का कथन है, पूर्ण निषेध वाक्य नहीं है, निषेध की व्यवस्था का उपलक्षक अपवाद है।

स्मृतिकारों ने सामान्य धर्म के अन्तर्गत उन नियमों का विधान किया है, जो व्यवहार के मूल में अनिवार्यतः पालनीय है। सामान्यतया मनु आदि ने इस सामान्य धर्म के अन्तर्गत सत्य अहिंसा आदि सद्गुणों की ही गणना की है। स्मृतिकारों ने व्यवहार के मूल में नित्य और प्रमाणभूत इन नियमों का निर्देश तो किया किन्तु ऐसे कोई स्पष्ट नियम या चिरस्थायी युक्ति का प्रतिपादन नहीं किया, जिसके आधार पर द्वन्द्वरहित व्यवहार का सम्पादन हो सके। सत्य-अहिंसा, सत्य-आत्मरक्षा, तथा आत्मरक्षा-शान्ति आदि में परस्पर विरोध होकर अर्थात् एक साथ दो या अधिक नियमों के अनुपालन की स्थिति में कर्तव्याकर्तव्य का सन्देह उत्पन्न होता है। तब नीति-धर्म, लोक-व्यवहार, स्वार्थ तथा सर्वभूतहित आदि तथ्यों का युक्तियुक्त विचार कर कर्तव्य निर्णय किया जाता है। किन्तु नीति के इन नियमों को अपवाद के साथ ही स्वीकार करना पड़ता है। ''अहिंसा परमो धर्मः'' के महान उद्घोष के साथ मनु को यह स्वीकार करना पड़ा कि -

गुरुं वा बालवृद्धौ वा ब्राह्मणं वा बहुश्रुतम् ।
आततायिनमायान्तं हन्यादेवाविचारयन् ।।[22]

आपत्काल में 'प्राणस्यान्नमिदं सर्वम्'[23] यह नियम स्मृति में ही नहीं, उपनिषदादि में भी कहा गया है। धर्म का दूसरा तत्त्व 'सत्य' है। 'सत्यं ब्रूयात्' विधि के यथावत् पालन से कभी-कभी धर्म के

प्रथम नियम अहिंसा का व्याघात होने लगता है। ऐसी स्थिति में धर्म के किस नियम का बाध माना जाए, यह जटिल समस्या होती है। तब सद्व्यवहार के बीज का निर्णय कर परस्पर विरुद्ध नियमों में से एक का औत्सर्गिक रूप तथा दूसरे का अपवादात्मक रूप ग्रहण करना होता है।

व्यवहार-बीज का निर्णय दो दृष्टियों से किया जाता है - प्रथम : कर्म का बाह्य फल देखकर, द्वितीय : कर्म के प्रति कर्ता की बुद्धि देखकर ।

द्वितीय पक्ष के पुनः दो चरण होते है - शुद्ध कर्म के लिए शुद्ध वासनात्मक बुद्धि का होना, यहाँ आत्मा प्राधान्येन मान्य है। शुद्ध वासनात्मक बुद्धि के लिये कार्याकार्यनिर्णयपरक शुद्ध व्यवसायात्मक बुद्धि का होना अनिवार्य है। इस प्रकार नीति-निर्णय की यह दोनों दृष्टियां क्रमशः आधिभौतिक तथा आध्यात्मिक पक्ष की ओर संकेत करती है। स्मृतिशास्त्र साम्यबुद्धि रूप परमार्थ को नीति का मूल आधार मानता हुआ आध्यात्मिक मार्ग को प्रशस्त करता है। साधक-बाधक प्रमाणों तथा नियमों के क्रमसहित निरूपण से ही किसी शास्त्र के प्रतिपाद्य विषय के मूल तत्त्व निष्पन्न होते हैं।

इस प्रकार देखा जाए तो धर्मशास्त्र का प्रारूप मात्र सामान्य नियमों पर अधिष्ठित नहीं किया जा सकता। प्रत्येक धर्मस्त्रोत श्रुति हो, स्मृति हो, शिष्टाचार हो या लोक-परम्परा किसी विषय-क्षेत्र में प्रथमतः सामान्य नियमों का ही प्रतिपादन करता है, तथापि जब सामान्य नियम-अनुपालन से प्रयोजन फलित नहीं होता तो अपवाद का नयन करना ही होता है। हर सामान्य के उसी क्षेत्र में नियमन करने वाला दूसरा नियम अपवाद है, जो सामान्य के नित्यत्व को भंग कर काल का आरोपण स्पष्ट करता है। इसके साथ ही धर्मशास्त्रीय प्रयोजन की साध्यरूपता में काल स्वतः अनुस्यूत है। अतः धर्मशास्त्र में कालसापेक्षता आचार संहिता की परिवर्तिष्णुवृत्तिता का संकेत करती है और भारतीय संस्कृति की चिरकालिकता को अभिव्यक्ति प्रदान करती है।

सन्दर्भ

1. कृते तु मानवो धर्मस्त्रेतायां गौतमः स्मृतः ।
   द्वापरे शंखलिखितः कलौ पाराशरः स्मृतः ।। [पाराशर स्मृति, 1.24]

2. यत्पूर्वमृषिभिः प्रोक्तन्धर्म–शास्त्रमनुत्तमम् ।
   तत्प्रमाणन्तु सर्वेषांल्लोक–धर्मानुवर्णनम् ।। [आंगिरसस्मृति, 1.8]

3. अन्ये कृतयुगे धर्मास्त्रेतायां द्वापरेऽपरे ।
   अन्ये कलियुगे नृणां युगह्रासानुरूपतः ।।
   तपः परं कृतयुगे त्रेतायां ज्ञानमुच्यते ।
   द्वापरे यज्ञमेवाहुर्दानमेकं कलौ युगे ।। [मनुस्मृति, 1.85–86]

4. इदं चात्र द्रष्टव्यम् – प्रत्यक्षादेर्न गोचरौ धर्माधर्मौ । किन्तु नित्यनिर्दोष वेदगम्यौ । तदभावे तन्मूलधर्मशास्त्रगम्याविति । [आपस्तम्ब धर्मसूत्र, उज्जवला, 1.7.6]

5. वाक्यपदीय, 1.145

6. वाक्यपदीय, 1.1-12.

7. श्रुतिस्मृतिविहितो धर्मः [वसिष्ठ धर्मसूत्र, 1.4.6]
आचारप्रभवो धर्मः।
धारणाद्धर्ममित्याहुः धर्मो धारयते प्रजाः ।
यत्स्याद्धारणसंयुक्तं स धर्म इति निश्चयः ।। [महाभारत, शान्ति, 109, 12]

8. यतोऽभ्युदयनिःश्रेयससिद्धिः स धर्मः [वैशेषिक सूत्र]

9. य एव श्रेयस्करः, स एव धर्म शब्देन उच्यते, कथमवगम्यताम्, यो हि यागमनुतिष्ठति, तं धार्मिक इति समाचक्षते, ... तेन.... यः पुरुषं निःश्रेयसेन संयुनक्ति, स धर्म शब्देन उच्यते ..... कोऽर्थः यो निःश्रेयसाय ज्योतिष्टोमादिः । कोऽनर्थः- यः प्रत्यवायाय ।
[मीमांसा सूत्र, शाबर भाष्य, 1.1.2]

10. मीमांसा सूत्र, 1.1.2

11. ऋग्वेद 10.190.1

12. प्रवृत्तौ वा निवृत्तौ वा या शब्दश्रवणेन धीः सा चोदना [श्लोकवार्तिक, 1.1.2]

13. अहिंसा सत्यमस्तेयं शौचमिन्द्रिय निग्रह : ।
दानं धर्मो दया क्षान्ति सर्वेषान्धर्म साधनम् ।। [याज्ञवल्क्य स्मृति, 1.122]

धृतिः क्षमा दमोऽस्तेयं शौचमिन्द्रिय निग्रहः ।
धीर्विद्या सत्यमक्रोधो दशकं धर्मलक्षणम् ।। [मनुस्मृति, 6.92]

14. अत्र च धर्मशब्दः षड्विध स्मार्त-धर्म-विषयः । तद्यथाः वर्णधर्मः, आश्रम धर्मः, वर्णाश्रम धर्मः, गुणः धर्मः, निमित्तधर्मः साधारण धर्मश्चेति ।.......... शास्त्रीयाभिषेकादि गुणयुक्तस्य राज्ञः प्रजापरिपालनादिः [याज्ञ स्मृ. मिताक्षरा, 1.1]

15. प्रमाणवार्त्तिक, पृ. 1.

16. आक्षेपेष्वपवादेषु प्राप्त्यां लक्षणकर्मणि ।
प्रयोजनं न वक्तव्यं यश्च कृत्वा प्रवर्तते ।। [शाबर भाष्य, 2.1.7.32]

17. मनुस्मृति, 10.76–79

18. माता पिता वा दद्यातां यमद्भिः पुत्रमापदि ।
सदृश प्रीति संयुक्तं स ज्ञेयो दत्त्रिमः सुतः ।। [मनुस्मृति, 9.168]

19. आपद्ग्रहणादनापदि न देयः; दातुरयं प्रतिषेधः । [याज्ञ. स्मृ, मिताक्षरा, 2,130]

20. अयं निषेधो दातुरेव पुरुषार्थः, न क्रत्वर्थ इति विज्ञानेश्वरः। तन्न। अस्य वाक्याददृष्टतार्थतया क्रत्वर्थावगमात् [व्यवहारमयूख, पृ, 107]

21. मनुस्मृति, 4.36

22. मनुस्मति, 8.350

23. मनुस्मृति, 5.28

XII

TEMPORALITY AND THE RULE STRUCTURE IN ĀYURVEDA

ANURADHA SINGH

I : PRELIMINARIES

Āyurveda is a tradition, a culture and a historical emergent, which bears the impress of a variety of purposes, beliefs and practices, which in turn has deeply instituted practices and knowledge claims regarding health in our civilization. None the less, it is also an organized body of knowledge with internal theoretical consistency, with its own corpus of concepts, categories and rules which constitute its structure. As a systematized body of knowledge, directed towards the maintenance of life (*āyus*), it ensouls theoretico-logical structure which gives it capability of inference and based on it the capacity to arrive at knowledge decisions which can achieve efficacious action and results. What are the characteristic global features, overall defining features of the theoretico-logical structure of Āyurveda? Our concern in this essay is with these features and specially the once which disclose temporal openity of the structure.

One characteristic feature of the structure is its teleo-logical envelope, the directedness of knowledge embodied in it. That the structure is not the one which will result from an epistemic value - knowledge for its own sake - but is the one which has as its apex value a teleo-logical concern. Within the civilizational dispositions concerning *puruṣārtha-s* (teleological ends) the specification of the domain of Āyurveda is achieved by delineating and defining the purpose of Āyurveda as - *prayojana śāstra* (purposive systematized knowledge) for ensuring and establishing *śarīra dharma* (body's judicious nature), that is, developing knowledge body to help maintain the health of a healthy individual and cure of the disease of a patient.[1] Since without instituting *śarīra dharma* fulfillment of *puruṣārtha-s* (man's *telos* - *dharma, artha, kāma,* and *mokṣa*) is not possible, it necessitates establishment of conditions so that *hita* (good) of the mankind can be sustained and *ahita* (bad) can be warded off. Purpose of Āyurveda is to establish such a condition called *śarīra dharma.* Thus the domain of systematized body of knowledge directed towards upkeep of *āyus* (life) as *Āyur-veda* gets established. This directedness of knowledge pervades the entire structure of Āyurveda. Not only at the level of its overall teleology but also every statement in the structure has signs of this directedness. Thus, if such is a case then the logical structure itself, which is constituted by these statements, would have feature where the directedness discloses itself. It is

this directedness which embodies temporality. But such a claim has to be evidenced in the details of the structure. Time as a mere fact after all is too trivial a notice for any practical discipline but not the discovery of time-like-ness within the knowledge structure of a practical discipline. This is the novelty which we shall try to examine and work out in the context of Āyurveda.

Before we can get into the details of the nature of systematization in Āyurveda and to investigate the issue of its relation with temporality few global concepts of Āyurveda need to be clarified. This is because only then that we shall be able to penetrate theoretico-logical structure of Āyurveda. And it is only when we get into the character and relations of central concepts and rules in the structure that question of temporality can be meaningfully addressed.

Human body, according to **Caraka Saṃhitā** (a foundational text of Āyurveda), is a conglomerate of the specific modifications of the five *mahabhuta-s* (five global substantial grounds) - *pṛthvi* (earth), *vāyu* (air), *āpa* (water), *teja* (fire), and *ākāśa*. It is also the seat of consciousness. The specific modifications of *bhuta-s* (grounds) which uphold the body and define its constitution, are called *dhātu-s* (root elements). The body functions properly as long as these *dhātu-s* are in their proper mutuality relation (*dhātu sāmya*.) However, when one or more of the *dhātu-s* decreases or exceeds the requirement of proper mutuality, such deficiency or excess produces defect - *vikāra* or *doṣa* (*vāta, pitta* or *kapha*) - in the body and this state is called *dhātu vaiśamya*. The purpose of knowledge body of Āyurveda is thus to advise or enjoin as to how to secure and maintain *dhātu sāmya*[2] (state of health) and for this it prescribes diet, medicine and regimen (*ṛtucaryā, dinacaryā* etc.) to be followed so that a healthy person can maintain the equilibrium of his body elements and a person who has lost this balance may regain it. This restatement of directedness of the knowledge body helps us discover directedness in every elemental knowledge unit within its structure. Such a knowledge unit is - rule enjoining action. Thus the knowledge body of Āyurveda is full of prescriptive or injunctive rules whose collective fruit is *dhātu sāmya*, a condition for the pursuit of man's larger teleological goals. It is in this rule structure that we shall try to discover temporality.

Defining *telos* delimits the specific domain of Āyurveda as distinct *sastra* from other *śāstra-s* such as *Vyākaraṇa, Nāṭya* or *Śilpa śāstra* etc. which have their own specific pursuits quite distinct from the domain defining pursuit of Āyurveda. The specificity of its defining *telos* also influences content of *sastra* in a non trivial way. Finitude of life - from the conception to the time of death - lends an enormous responsibility, a sense of urgency, a nowness to the *lakṣyaprāpti* or the attainment of the result (fruit) of Āyurveda. Compared to other *śāstra-s* this specificity of *telos* gives its theoretico-logical structure a different character. *Lakṣya* (goal) is delimited in a special way by the immediacy of *kāla* (time) itself in Āyurveda. It can not afford deferment in time as health is to be reinstated immediately. This sense of urgency in application is significant as it bestows a unique character of temporal urgency to

Āyurveda compared to other *prayojana śāstra-s.* Practice becomes thus its content. Practitioner also becomes its content.

Real time process of establishing *dhātu sāmya* and temporal urgency of correcting *dhātu vaiśamya* stems out of the finitude of *āyus* and thus makes the object of Āyurveda's theoretico-logical structure fundamentally *actional.* Elemental knowledge unit in the structure, that is, rule, is defined by the unit of *actional* object. This *actional* content is systematized as knowledge body which interestingly itself is to be valid over ages. Time thus seeps into the structure of knowledge in a novel way through the route of *actional* content of Āyurveda. Time as a *real* category would naturally find a place in the content of Āyurveda as also in any other discipline but that would be a trivial notice. Much more interesting way in which Āyurveda theory would be related to time is perpetual occurrence of temporal gap between what *is* and what is *to be* achieved (*lakṣya*) by theory. That is, *telos* itself would involve temporal gap between *siddha* (established) and *sādhya* (to be brought about). Thus all *prayojana śāstra-s* would feature temporality in this sense as relation of theory (*lakṣaṇa*) to purpose (*lakṣya*) and structure of their *laksana* would embody this sense of temporality. But in Āyurveda, over and above the two senses of temporality-theory relation, a third sense shows up. The third sense is - temporality featuring as an *actional* object of *lakṣaṇa* in Āyurveda. How does this sense of temporality affect or manifest in the structure of Āyurvedic theory? This is a more sharply specified formulation of the question we had earlier formulated in general terms and which we are examining in this essay.

Once the *lakṣya* is defined, the *sastra* goes on to provide the conceptual apparatus which encompasses an intricate web of rules and injunctions, almost a normative way of life governing the practices and knowledge claims regarding health and disease. So much so that the text assumes a materialization for the practicing physicians as real as the drugs they recommend. These *śāstra vākya-s* serve two purposes at the same time. They not only induce the person to act according to the rules, they also at the same time provide knowledge of the *sastra,* which though already rooted in observable practices (*vyavahāra*) acquires doctrinal credibility in the form of textual matrix in which the Āyurvedic system has taken shape.

Seen in this perspective we find that the rule structure which governs this textual matrix does not have implicit any formal closure norms, it is at the same time injunctive as well as descriptive, it is perpetually directed outside itself - towards achievement of purpose, it is thus temporally open. And this disposition has influenced the content of the entire theoretical structure. This we can establish in two ways, first, we find a foundational grounding of the *sastra* towards *actional* object. It is found in the successive unfoldment of the various factors needed for the fulfillment of its *prayojana.* Second, it is observed that universal rules (*samanya niyama*) which govern the medical theorizing and which are applicable to certain larger domains necessarily carry with them their exceptions (*apavāda*) either restricting or modifying the general rule. Pervasiveness of this *sāmānya-apavāda*

inter-play in the rule structure is an integral necessity without which neither the *vyāpāra* (practice) nor the *phala* (fruit) of Āyurveda is possible. This fabric features temporality since universal generalizations are not *svabhāva nitya*, eternal by their intrinsic nature. We shall explain this second point in details first.

II : UNIVERSAL RULES NOT SVABHĀVA NITYA

In the conceptual apparatus of Āyurveda's textual matrix, *dravya* (substance); *guṇa* (qualities); *karma* (action); *samvāya* (inherence); *sāmānya* (similar), and; *viśeṣa* (dissimilar)[3], remain the most important categories. The complete edifice of Indian medicine rests on them. What is more important from the foundational point of view is that the understanding of these categories is rooted in their application to understand effects on the human body. All of them derive their meaning from their worth in the analysis of *actional* object of the structure. They do not have the same meaning in Āyurveda as they have in Nyāya Veiśeṣika system. This point I have argued in details elsewhere earlier.[4] These are fundamental categories for grasping *actional* object of the structure and not realist categories as in *Veiśeṣika* philosophy. By definition *dravya* is the substrate of *guṇa* and *karma*. *Guṇa-s* are those which inhere in the *dravya-s*. They are the active pointer to the material composition of the substances, the knowledge of which is important in so far as they help to know and to regulate the actions of substances on our bodies. They rather constitute composition of the substances. But to know the substance from its qualities a logical relation is required, which is not arbitrary, and on the other hand is an inseparability relation. This relation is called *samvāya*. Not only inseparable qualities inhere in the substance, inseparable action also find their substrate in the substance. *Karma* is not determined by anything else (other than the nature of substance itself). *Guna* and *karma* by themselves can not be mobile, they can be mobile only in so far as they inhere in *dravya* which are mobile. Again *dravya-s* are active by the rule of *sāmānya* and *viśeṣa*. Mutual effect on each other of different substance is grasped in the category of *sāmānya* and *viśeṣa*. *Sāmānya* substance is the one which strengthens and accentuates particular compositional feature of the body and *visesa* substance does the reverse or curtails and decreases any particular feature.[5]

Dravya (substance) through its acts remains the most elemental category in the medical text since to this belongs the whole gamut of the therapeutic agents. *Dravya* in the form of either *āhāra* (food/diet) or *auṣadhī* (medicine) are of three types: *doṣa praśamaṇa* (pacifier), *dhātu pradūṣaṇa* (vitiators) and *svāstha hita* (maintainer).[6] Note that this classification is an *actional* object based classification. A fact Indian physician do not get tired of reporting is that 'there is in this world no substance that may not be *used* as medicine in this or that manner or for this or that purpose.'[7] Substances when *consumed* in the right form, in right proportion and

with right combination results in the proper mutuality of the body elements which is called the state of health.

Now, the question of their *usage* gets settled only if we know their internal composition. The question is how does this knowledge of *dravya-s* become possible? This knowledge is fundamentally an inferential knowledge. Explanation of this question is attempted in two ways :

1. By linking the *rasa* (gustatory sensuous qualities) and *guna* (general qualities) as indicators to the material composition of *dravya*, and

2. By observing the action of *dravya* in terms of its effect on the body and thus fixing its composition and usage.

Rasa[8] is not only the object of gustatory sense organ, it also makes possible inference of the material composition, qualities and possible actions of all the *dravya*. *Rasa* are six in number : *madhura* (sweet); *amala* (acid); *lavaṇa* (saline); *kaṭu* (hot and pungent); *tikta* (bitter), and; *kaṣāya* (astringent). The source of all these *rasa-s* is water though the substrate of *rasa-s* are *pañca mahābhūta-s*. *Rasa-s* themselves are perceived directly, however, their relation with *pañca mahābhūta-s* is only *inferred* and accordingly their relations with *dosa-s* of the body are worked out.[9] For instance, *madhura rasa* increased *kapha* and *kapha* is composed of *prithvi* and *jala*, hence *madhura* ~~r~~*asa* must be similar in composition (*prithvi+jala*) by the *sāmānya* rule.

However, it is found that *rasa* can be superseded by other *guṇa* which affects the resultant action of the *dravya*. For instance, water increases *kapha* because of its natural 'sweetness' but water when becomes hot (when *usna guna* supersedes) it shows just the opposite effect, i.e., decreases *kapha*. Also, even in substances of similar *rasa* difference in *guṇa* is observed in individual cases, for instance, some substances of *amala rasa* are astringent (e.g., *kāpitya*) while other are purgative (e.g., *amalaka*).[10] The difference must be according to other *guṇa-s*. Thus in the rule structure other *guna* can overrule *rasa*.

A noticeable feature of theorizing in medical texts is that it is *guṇa* (quality) which provide the foundational ground for explaining both *dhātu sāmya* and *dhātu vaiśamya*. Since not only it inheres in *dravya*, it is a causative agent, i.e., it qualifies the *dravya* for its action though itself having no property or action.

In **Caraka Saṃhitā** we find different lists of *guṇa-s* grouped in three categories.[11]

1. Since all substances are constituted of matter in its five forms, - i.e., *ākāṣa*, air, fire, water and earth - Caraka has enlisted five sensible qualities specific to these *bhūta-s*, - i.e., sound, touch, color, taste and smell. Among these

qualities inferences on the basis of taste (*rasa*) are the most basic ones for medical theory but are not sufficient and can be overruled by inferences based on other sensible qualities.

2. We find list of *guru ādi guṇa*, they are twenty in number. These are : *guru* (heavy); *laghu* (light); *śīta* (cold); *uṣṇa* (hot); *snigdha* (unctuous); *rukṣa* (dry); *manda* (slow); *tīkṣṇa* (acute); *sthira* (stable); *sara* (mobile); *mṛdu* (soft); *kaṭhina* (hard); *viṣāda* (clear); *picchila* (slimy); *sāndra* (dense); *drava* (liquid); *slakṣṇa* (smooth); *khara* (rough); *sūkṣma* (subtle), and; *sthula* (coarse). These qualities are assignable through global sensible qualities excluding the assignment through taste (*rasa*).

3. There is a list of *parādi guṇa*. They are : *para* (priority); *apara* (non priority) (these are determined with reference to time, place, age, dosage, digestion, potency and task); *yukti* (that faculty or process which assesses the contribution of various factors at work); *saṃkhyā* (enumeration); *saṃyoga* (combination); *saṃskāra* (production of new qualities etc.), and; *abhyāsa* (constant practice). These are complex qualities unlike atomic qualities mentioned earlier.

Now, it is seen that these *guṇa-s* permeate the entire theoretical structure of Āyurveda. As with the help of these qualities, the *śāstrakāra* is able to explain the medically relevant nature of nearly all the substances. Though it is through these *guṇa-s* that the *dravya-s* act on the body, it is found that *guṇa-s* of some substances change after digestion and in such cases the qualities or taste which emerge after digestion (*pāka*) would become operative. To explain this *actional* phenomenon, the theory of *vipāka* was introduced. *Vipāka* was thus the transformed state of ingested drug or diet after its digestion which further affected the metabolic processes.[12] Suśruta Saṃhitā admits of two *vipāka*, i.e., *guru* and *laghu* whereas Caraka Saṃhitā admits of three, namely, *madhu, amla* and *kaṭu*. In the domain of *vipāka* instead of admitting exceptions, degrees of *vipāka* were admitted. *Madhura* is *vipāka* by *madhura rasa* primarily, secondarily by *amla* and only thirdly by *lavaṇa* etc. and never by *tikta* or *kaṣāya*. Theory of *vipāka* gives the second level in the rule structure for understanding and activating effect of drug and diet on the body. *Vipāka* can overrules inferences based on *rasa* or *guṇa*. It corrects general rules based purely on *rasa* (taste) and other *guṇa* (qualities).

However, neither *guṇa* nor *vipāka* was able to explain all the specific action of the *dravya*. It is observed that there is a potency in *dravya* which is preeminently responsible for its action and in its absence there is no action. This potency is called *vīrya*[13] and all actions of the *dravya* are seen to be carried by this potency. Notion of *vīrya* helps grasp residual effect of drug/diet not covered by *rasa (guṇa)* and *vipāka*. It constitutes third layer of inferences. Accordingly, one of the general rules which determine the nature of *vīrya* says - substances having *madhura rasa* will be *śīta vīrya* while those having *amla* and *kaṭu rasa-s* will have *uṣṇa vīrya*. But

exceptions were found in this domain, for instance, meat of animals having *madhura rasa* is *uṣṇa vīrya, amalaka* having sour taste is not *uṣṇa* etc. etc. [14]

But perhaps this was not sufficient, for, there were many other ways in which a substance would affect the body which could not be exhaustively explained on the basis of the above mentioned classificatory suppositions. For instance, two substances having similar *rasa, vīrya* and *vipāka* are found to be acting differently. The problem was to explain those specific actions. This led to the formulation of the concept of *prabhāva.* According to **Caraka Saṃhitā** - "where there is similarity in two substances in relation to their *rasa, vīrya* and *vipāka,* but in spite of this similarity these two (substances) differ with regard to their action, the distinctive feature responsible for their distinctive effects not supported by (the general rules which govern) *rasa, vīrya, vipāka,* is regarded as *prabhāva* or special action. For instance, both *citraka* and *dānti* are similar in taste, *vipāka* (pungent) and *vīrya* (hot) - but *dānti* acts as a purgative while *chitraka* does not. This action is due to *prabhāva. Prabhāva* has also been called *acintaya* (beyond any available explanation)."[15] *Prabhāva* constitutes the fourth layer of inferencing capability.

Thus some medicines manifest their actions by virtue of their *rasa,* some by their *vīrya,* some by *vipāka* and others by their *prabhāva.* In case the taste, *vipāka, vīrya* and *prabhāva* are all of equal strength, we are told, by nature, taste is superseded by *vipāka,* both of them in turn are superseded by potency and *prabhāva* overcomes all of them.[16] This is a logical structural feature of *balābala* (strength and weakness) among them. However weaker properties do not loose their capacity to act and contribute to the total effect of the substance. All this analytic complexity in the structure results because the object of analysis is *actional.* That is, the object is essentially temporal and thus essentially incapable of directly being renderable in non-temporal 'concepts'. Since knowledge as textual matrix deals with such 'concepts' which give it lasting value it becomes necessary to intrinsically embed within the rule structure sensitivity towards temporality. This requirement is met by a structural feature, namely, *balābala* (device of supersession) and *apavāda* (device of overruling or truncation of generalization). There is a mutual *balābala* relation between *rasa, vipāka, vīrya* and *prabhāva.* They can supersede each other with increasing power of supersession (i.e., succeeding concept has more power then the preceding concept) and interestingly with decreasing domain of application (i.e., preceding concept explains more then the succeeding concept). The general rules which are constructed using them have to vacate their application domain to allow for other rule which have much smaller application domains. This is a *apavāda* device.

It is well to note in this connection that what we have outlined above is only a very partial glimpse into the medical theorization and constituent elements of its structure to show that no universal generalization can become *svabhāva nitya* (eternal according to its own nature) in the medical domain. Since the entire domain has *actional* object which do not have a non-eternal map in knowledge. Universal

generalization which populate the realm of knowledge, get contained or modified by exceptions which keeps the theory open to accept all those specific diversions from the general rule structure which are necessary to ensure the establishment of *śarīra dharma*. It is in the lack of *svabhāva nityatā* of universal rules that temporality discloses itself thus theoretico-logical structure remains temporally open.

Though we have seen how in the rule structure itself temporality is to be found embedded and that, perhaps, the explanation for it lies in the *actional* nature of the object of the structure, it still remains to be clarified as to what is the structure of this *actional* object of the theoretico-logical structure of Āyurveda. Some of the logical features having temporal nature have already been explained. How temporality is intrinsically involved in Āyurveda can not be adequately accounted for if structure of its *actional* object is not taken cognizance of.

III : STRUCTURE OF AN ACTIONAL OBJECT OF ĀYURVEDA

Rules and injunctions are not free standing, they seem to guide conduct or course of action only when there is an acceptance of the ways of thinking and acting which have a wider significance and relevance than the rules themselves. Precisely in this light we see that on the one hand *śāstra* gives us knowledge about the rules which govern the various *padārtha-s* (what technical terms refer to) and at the same time it shows how this knowledge through action leads to fruition and establishment of *śarīradharma*. This *śāstra* is able to do because theory as well as practice have the same object, a type we have called *actional* object. In the descriptive sense of the theory *actional* object shows up in *balābala* and *apavāda* and in the injunction sense of practice it still needs to be adequately analyzed.

Now, if the establishment of *śarīra dharma* is to be regarded as a final proof of that knowledge, then the process of knowledge to its fruition brings in the element of temporality, since the process is mediated by an *actional* operation having temporal feature. This foundational centrality of 'action' is found in Caraka Saṃhitā in terms of the unfoldment of *actional* object in ten medically relevant ways. These are the ten factors the knowledge of which is essential for the success of the therapeutic action. These are :

1. *Kartā* - that who does a thing. He is the cause and agent. We are told that in any given therapeutic action, the *karta* is the physician who is well adept in the knowledge of science, experience of practical work and promptness of application. In fact, he is *sādhaka* (seeker of deliverance from bondage) who is an integral part of the *śāstra* and on him, is dependent *yukti* as a methodological device to bring success to therapeutic actions.

2. That endeavor (*pravṛti*) which is directed to an end is the action (*karma* or *kārya samārambha*.) Therapeutics itself becomes *karma*.

3. That which helps the doer or the means or method which the doer ascribes to when he performs action is *karaṇa*. Medication is *karaṇa* since it is prepared by the physician for restoring the equilibrium of the body elements. Any other thing which serves the same purpose is also *karaṇa*.

4. *Kāryayoni* (source of action) is the one which becomes an action after a process of transformation. *Dhātuvaiśamya* or diseased state is *kāryayoni*, since it is only at the advent of some disease that therapeutics can attain the status of an action.

5. *Upāya* (device or procedure) stands for bringing excellence in the agent, the instrument and the origin of action and their proper management.

6. *Adhisthān*, a therapeutic action place which can be taken to mean the country or habitat of the drug as well as the patient himself.

7. *Kāla* or time here can be taken to mean either the season of the year or the development state of the disease.

8. *Kārya* or effect is that which the physician strives to bring into being, that is, (*dhatusamya*)

9. *Anubandha* or life which is related to the doer, be it of a happy or unhappy nature resulting from his actions.

10. *Kāryaphala* or the result of the action, with the objective of which the action was performed. *Ārogyaprāpti* or acquiring the state of health is the *kāryaphala* of the therapeutic action.[17]

Interestingly, one could trace some semblance of the unfoldment of action in the medical text with the semantic analysis of 'expression of action' in Pāṇini's grammar which recognizes the six fold relations that unfold and lead to the accomplishment of action. This is called the theory of *kāraka*. Anything that helps toward the accomplishment of an action is a *kāraka*. All the various causes and accessions (*nimitta*) that are required to complete an action will be *kāraka-s*. These are *kartā, karma, karaṇa, (hetu) sampradāna, apādāna* and *adhikaraṇa*.[18] Just as these relations of action are so inextricably linked to expression of *bhāva* (becoming) in Pāṇinian grammar, our ten fold medical relations are almost a matter of deep necessity in Āyurveda. They are the ten *kāraka-s* of Āyurveda which help establish the *sādhya*, namely, health much as six *kāraka-s* of Vyākaraṇa help establish the *sādhya*, namely, *kriyā (bhu ādi dātu-s)*. Without *kāraka-s* no *kriyā* can be accomplished. The *kāraka-s* are the structure of *actional* object (*sādhyatva*) and Āyurveda's object is such that the *kāraka-s* are ten-fold. These were considered so

important that no therapeutic action can be accomplished unless these categories of *actional* object are taken into consideration, understood and investigated.[19] This structure is not an appendix to the theoretico-logical structure of Āyurveda but an integral part of it otherwise the relation of theory and practice will become problematic. It is the gluing force of *temporal actional* object which gives the structure of Āyurveda a unique character which it embodies. This structure is essentially a teleo-logical structure thus in a vital sense temporality is an integral feature in it. The teleo-logical nature discloses itself at all levels in the structure. At the level of entire *śāstra* or at the level of a rule or at the level of practice. The temporal feature of Āyurveda's teleo-logy discloses itself thus at all levels and in very many surprising ways. In a pure logical devices - such as *balābala* and *sāmānya-apavāda* structure - and most crucially, in the structure of *actional* object of theoretico-logical structure of Āyurveda.

NOTES

1. *Caraka Saṃhitā*, Gulabkunverba Āyurveda Society publication. Jamnagar 1949. I.30.26.
2. *Ibid.*, I.1.52.
3. *Ibid.*, I.1.28-29.
4. See pp. 71-72, Anuradha Singh, "Theoretical foundation of Classical Indian Medicine", in *Ancient Science of Life*, vol. VII, No. 2, No. 3 and No. 4, Oct. 1987, Jan. and April 1988. pp. 69-75 and pp. 126-133.
5. *Ibid.*, I.1.44-52.
6. *Ibid.*, I.1.67.
7. *Ibid.*, I.26.12.
8. *Rasa* here is used in only one sense among many senses it is used in medical literature, i.e., *rasa dhātu*, *poṣakarasa* etc.
9. *Caraka Saṃhitā*, I. 26.9.
10. *Ibid.*, I.26.50-52.
11. *Caraka Saṃhitā* based on Cakrapāṇi Datta's *Āyurveda Dīpikā*. Trans. & ed. by Dr. R K Sharma and Vd. Bhagwan Dash. Chowkhamba Sanskrit Series: Varanasi. 1976. I.1.49.
12. *Ibid.*. I.26. 57-58.
13. *Ibid.*. I.26. 64-65.
14. *Ibid.*. I.26. 45, 48-49.
15. *Ibid.*. I.26. 67-70.
16. *Ibid.*. I.26. 71-72.
17. *Ibid.*. III. 8. 84-93.
18. *Aṣṭādhyāyī* of Pāṇini. ed. & Trans. by Sirsa Chandra Vasu. Motilal Banarsidas : New Delhi. 1980. 1.4. 23-55.
19. *Caraka Saṃhitā*, III. 8. 79(1),79.

XIII

WEAKENING OF THEORY WITH TIME AND PRĀMĀṆYA IN KĀLAVIDHĀNA (JYOTIḤ) ŚĀSTRA

M.D.SRINIVAS

I : INTRODUCTION

The question that I will try to indulge in is : In science what is the direction of the Indian effort? Where are these sciences going? What is their quest? Like Archimedes or Newton, are they attempting to discover laws of the universe - or are they trying to do something quite mundane, say, comprehend our surrounding for solving various contingent problems that are faced in life, for a simple purpose of living well in the world.

Much of the theory and practice and even more so the methodology of the Indian tradition in sciences remain largely obscure to most of us brought up on certain naive assumptions on the nature of science. These assumptions are based exclusively on the Greco-European understanding of nature of the scientific quest,an understanding crucially limited by the limits of the Greco-European civilizational experience. We have taken to the belief that science is nothing if not a search for truth which is ultimate and absolute; that the scientific theories are designed to be a totally faithful transcription of the world, and; that progress in science ought to be directed to arriving at the ultimate true description. Thus the scientific quest itself is viewed as a quest for the ultimate true theory. One of the consequences of our adopting such views uncritically has been that we have more or less acceded to the bias that science is a very special activity of the few who are truth seekers, somewhat in the sense of the ancient Indian *ṛṣi-s*. In a more ordinary sense, we have also become victims of the dominant Greco-European theories of rationality and progress which are merely designed to present the evolution of the Greco-European heritage in a very special light in comparison with other civilizations.

It is very important therefore that we try and understand the nature of the scientific quest in Indian civilization. We make a preliminary effort in this essay to understand how the Indian *śāstrakāra-s* have expounded on the nature of the *śāstra-s*, and even in this we restrict ourselves to a discussion of *jyotiḥ śāstra* [1], the science of celestial objects.

The first crucial feature of any *śāstra* is that there has to be a clear statement of *prayojana* or purpose of the *śāstra*. While it is indeed true that all *śāstra-s* are ultimately related to the fulfillment of the various *puruṣārtha-s*, every *sastra* still devotes considerable effort to clearly state the *prayojana* or the aim or the purpose of that *śāstra*. And as a rule in most of the sciences the *prayojana* is a fairly mundane purpose, having mostly to do with the *vyavahāra* or the activities concerning ordinary living.

The relation of *śāstra* with *vyavahāra* is a deep relation and is crucial for understanding the nature of scientific quest in the Indian heritage and its difference in departure from the quest in the Greco-European heritage. Directedness of *sastra* towards *vyavahāra* is radically different from the directedness of scientific theory towards immutable laws. The image of *prāmāṇya* or *'truth'* in the two quests are different. *Prāmāṇya* is established only in *vyavahāra* or *prayoga* where as *truth* is established purely epistemo-logically. Where as *pramā śāstra* for the fulfillment of one purpose can be many, a true theory can be one only. This difference leads to a difference in ideas of theory change. In the Indian tradition theory change is incremental and does not necessarily involve radical changes in foundations. Not that change in foundations is discouraged, it may very well happen but even if it takes place it is not eulogized. This is so because theory always follows *vyavahāra*. Where as 'revolutionary' theory change, eulogized by some of the philosopher of modern science, involves radical changes of foundations necessarily. Absence of 'revolutionary' theory change is no vice and merely points towards difference in the conception of theory. To accept in principle that theory (*prayojana śāstra*) necessarily weakens with the passage of time is to recognize such a possibility in the conception of a theory and such a conception is impregnated in the directedness of *śāstra* towards *vyavahāra*. We shall illustrate this anti-foundationalist Indian attitude by taking the case of a specific theoretical activity for the establishment and determination of time.

II : KĀLAVIDHĀNA ŚĀSTRA AND ATTITUDE TOWARDS THEORY

The *prayojana* or purpose of *jyotiḥ śāstra* is to enable determination of *kāla* (time), *deśa* (place) and *dik* (direction). The ancient **Vedāṅga Jyotiṣa** texts declare *jyotiḥ śāstra* to be *kālavidhāna śāstra* (theory for establishing time). Much later, Bhaskaracarya (c. 12th century) states in his treatise **Siddhāntaśiromaṇi** that - "from this (*jyotiḥ śāstra*) there arises the knowledge of time (*kālabodha*)." His commentator Nṛsimha Daivajña (c. 16th century) explains [Quotation 1] - "that the term *kāla* also encompasses *dik*"[2].

The determination of *kāla*, *dik* and *deśa* is to be achieved through *grahagatiparīkṣā*, a study of the motion of the celestial objects. As Nilakaṇṭha Somasutvan (c. 16th century) remarks [Quotation 2]: "The purpose of the *sastra* is to create in the students the capacity for investigating the motion of celestial objects".

In the same way Gaṇeśa Daivajña (c. 16th century) explains in his commentary on Bhāskarācārya's **Līlāvatī** that the purpose of even *Gaṇita Śāstra* is to enable computation of the movement, orbits, raising, setting etc., of celestial objects.

The *prayojana* of the *jyotiḥ śāstra* being thus understood by the Indian astronomers they put all their effort in making accurate observations, in developing suitable theories and efficient methods of calculation, and in evolving crucial tests which would help them correct their theories whenever they seemed to be inaccurate. A new treatise or text would be written with the explicit understanding that it fulfills a certain need in the *vyavahāra* (or the actual application of the science). For instance, Brahmagupta (c. 7th century) explains in the introduction to his manual **Khaṇḍa Khādyaka** that [Quotation 3]: "The methods expounded by Āryabhaṭa (c. 5th century) are generally impracticable for every day calculation" and hence he has set out to compose the new treatise.

We should emphasize the fact that the Indian *śāstra kāra-s* repeatedly point out that *śāstra* do become *slatha* (inadequate, weak) over time. This is almost always taken to be inherent in the very nature of things, although sometimes reasons are also given as to why many great *śāstra-s* of ancient times have become inadequate. In *jyotiṣa*, the indication that the *sastra* has become *slatha* is that one no longer has *dṛggaṇitaikya* (concordance between theory and observation). Let us cite a few instances of how Indian astronomers understand the issue of *śāstra saṃsthāpana* - reestablishment of the *śāstra* whenever it becomes *slatha*.

In his **Karaṇaratna** Devācārya (c. 7th century) explains the reasons for his attempts at *śāstra sthāpana* as follows [Quotation 4 and 5]:

> The *Karaṇa* texts of ancient times do not yield accurate results either because of the dullness of the pupil's intellect, or because of the cryptic teaching of the preceptor; or else, because of the inexactitude of the multipliers and divisors.
>
> They say that the aim of acquiring the knowledge of astronomy is to rectify and re-establish the lost methods or to discover and highlight new methods. Hence this attempt of mine.

Having basically understood that any *śāstra* invariably changes over time and place the Indian Astronomers had no philosophical or foundational or other problems in revising and reformulating their theories whenever they discovered in *vyavahāra* that their *śāstra* had become *slatha*. For instance, Jyeṣṭhadeva (c. 16th century) in his Malayālam text **Drikkaraṇa** describes the long series of revisions performed within just the Āryabhaṭīya school of Indian astronomy [Quotation 6-9]:

> Now I shall set out in brief what the early astronomers enunciated. Before *Kali* 3000, the eclipses and other observed phenomena did not tally with astronomical manuals or the *Siddānta-s*.

Then, in the *Kali* year *jñānatuṅga* (3600 = A.D. 499) an astronomer by name, Aryabhata was born in this world.

In the *Kali* year *girituṅga* (3623 = A.D. 522) was his work **Āryabhaṭīyā** composed and therein he enunciated the revolutions (or the planets). He had adjusted these revolutions by reduction and addition in such a way that there was no zero-correction at the beginning of *Kali*.

In course of time, deviations were observed in (the results arrived at by) this computation. Then, in the *Kali* year *mandasthala* (3785 = A.D. 684) equivalent to *saka tanuta* (606), several astronomers gathered together and devised, through observation, (a system), wherein (the correct mean longitudes were to be found) by multiplying the current *Kali* year - *minus* - *girituṅga* (*Kali* 3623, viz., the Aryabhatan epoch).

This system was termed *Parahita* and many followed it, assuring themselves of its accuracy.

When a long time had elapsed, there occurred substantial deviations. Then, (Parameśvara), a noble *brahmana*, residing on the coast of the Western Ocean, revised it (i.e., the *Parahita* system) by means of (astronomical) observations, in the *Kali* year *rangasobhanu* (4532 = A.D. 1431).

The work **Tantrasangraha** by Nilakaṇṭha, (with revised constants) is for twelve years later.

The revolutions given therein (i.e., in **Tantrasangraha**) too becoming imperfect (in course of time), observations were continued by the astronomers on the west coast for thirty years, from the *Kali* year *jaustava* (4678 = A.D.1577) to the *Kali* year *janaseva nu* (4709 = A.D. 1607) and, by observation, the astronomical tradition was revised accurately.

Hencefore, too, (the deviations) that would occur should be carefully observed (and revisions effected).

The realization that *sastra-s* invariably become *slatha* is indeed very common in the Indian astronomical traditions. For instance, there is a detailed statement in the **Bṛhattithicintāmaṇi** of Gaṇeśa Daivajña (c. 16th century), describing how *śāstra* which is *tathya* (accurate) at one period of time becomes inaccurate and needs *saṃsthāpana* in any later period [Quotation 20].

This job of re-establishing the *śāstra* at any period of time is indeed not a simple task and is very difficult to comprehend from the naive philosophies of science which are in currency today.

There must have been several instances in the Indian tradition of astronomy when this task was seen to be too demanding. Commenting on the faint-heartedness of some of his predecessors, Nilakaṇṭha Somasutvan (c. 16th century) declared in his important work **Jyotirmīmāṃsā** that [Quotation 21]:

> A commentator on the **Manasā** (viz. **Laghumanasā** of Muñjala) has lamented: 'Indeed, the *siddhānta-s*, like *Patamaha*, differ from one another (in giving the astronomical constants). Timings are different as the *siddhānta-s* differ (i.e., the measures of time at a particular moment differ as computed by the different *siddhānta-s*). When the computed timings differ, Vedic and domestic rituals, which have (correct) timings as a component (of their performance) go astray. When rituals go astray, world-life gets disrupted. Alas, we have precipitated into a calamity.'
>
> Here, it needs to be stated: 'O faint-hearted, there is nothing to be despaired of. Wherefore does anything remain beyond the key of those intent on serving at the feet of the teachers (and thus gain knowledge)? One has to realize that the five *siddhānta-s* had been correct at a particular time. Therefore, one should search for a *siddhānta* that does not show discord with actual observations (at the present time). Such accordance with observation has to be ascertained by (astronomical) observers during times of eclipses etc. When *siddhānta-s* show discord, i.e., when an early *siddhānta* is in discord, observations should be made of revolutions etc. (which would give results which accord with actual observation) and a new *siddhānta* enunciated.'

Nilakaṇṭha Somasutvan then goes on to a very interesting discussion as to how we can reconcile the common understanding that all *śāstra-s* are in some sense 'divine revelations' and the inexorable fact that a *śāstra* becomes *slatha* over time [Quotation 22]. His point is that, though all *śāstra-s* are divinely inspired and *sastra saṃsthāpana* cannot be done without divine grace, *śāstra-s* still remain essentially human creations (though of gifted individuals) and cannot in any sense be expected to be the ultimate or absolute truth. For the same reason one has to reconcile with the fact that the *śāstra-s* even though they are creation of great and inspired individuals, change over time and place.

It is this understanding of the *śāstra* as an essentially human construct (*puruṣa buddhi prabhāva*) that enables Indian scientists to be able to reconcile and live with different schools of thought (*siddhānta-s* or *pakṣa-s*) in any *sastra* as long as they are found suitable in *vyavahāra*. If the business of *jyotiḥ śāstra* were to arrive at the true picture of planetary motion, then from the time say, Āryabhaṭa proposed the model of diurnal rotation of the earth as opposed to the (then) traditional model of the rotation of the celestial sphere, all work in *jyotiḥ śāstra* would have to concentrate on resolving which is the true model. But instead, the Indian astronomers continued to concentrate on refining the basic astronomical parameters to arrive at better accord with observations in each school of thought, rather than making the business

of settling what constitutes the true picture of the world as the *raison d'etre* of science.

This issue is very well explained by Nṛsiṃha Daivajña (c. 16th century) in his commentary on Bhāskarācārya's **Siddhānta Śiromaṇi** where he explains how one has to reconcile to granting legitimacy (*pramāṇya*) to two different *sastra-s* which posit mutually contradictory pictures of celestial motion [Quotation 23]. Nṛsimha Daivajña's argument is that if different schools of thought cause no problem in *vyavahāra* then we should grant *prāmāṇya* to both of them. He points out that even as regards questions of ultimate reality divergent schools of thought are possible because even they are human constructs (*purusa buddhi prabhāva*). In *śāstra-s* like *Jyotiṣa* a student should be free to use or adopt any satisfactory model that is to one's liking. He then goes on to quote from the commentary of Caturveda Pṛhuḍakaswāmi (c. 9th century) on Brahmagupta's *Brahmasphuṭa Siddhānta* that:

> Just as the grammarians employ fictitious entities such as *prakṛti, pratyaya, āgama, lopa, vikāra*, etc. to decide on the established real world forms, and just as the Vaidya-s employ tubes etc. to demonstrate surgery, one has to understand and feel contented that it is in the same way that the astronomers employ notions such as the motion of the planets etc. in *maṅda* and *śīghra pratimaṇḍal* as for the sake of accurate predictions.

One has to see the enormous debate on the true model of celestial motion in the Greco-European tradition of the last two thousand years to realize how refreshingly different the above approach is to the entire question of the nature and purpose of scientific activity.

NOTES

1. For a discussion of other Indian sciences along these lines see J.K. Bajaj, "Indian Tradition in Science and Technology", *PPST Bulletin*, No. 13 & 14, June 1988, pp. 33-43.
2. Many of these quotations and translations are taken from B.V. Subbarayappa and K.V. Sarma, *Indian Astronomy: A Source Book*. Bombay: Nehru Centre. 1985.

QUOTATIONS

The quotations are referred to in the text by the serial numbers.

1. कालशब्दोपि दिगाद्युपलक्षणार्थम् ।

2. शिष्याणां ग्रहगतिपरीक्षासामर्थ्यापादनमेव शास्त्रप्रयोजनम् ।

3. प्रायेणार्यभटेन व्यवहार : प्रतिदिनं यतोऽशक्य :।

4. शिष्यस्य बुद्धिमन्दयाद् आचार्यस्योपदेशसंवरणात् ।
गुणभागयोश्च शेषात् पुराणकरणानि न घटन्ते ।।

5. नष्टानि स्थापयितुं नवानि करणानि च प्रकाशयितुम् ।
तन्त्रज्ञानस्य फलं वदन्ति, तदयं ममोत्साह :।।

6. पण्टुळ्ळ गणितशन्मार् चोन्नतोट्टु परञ्जिटाम् ।
कलयब्दं चित्रसहस्त्रत्तिल परं चेन्नुळ्ळ नाळिलु।।

7. ओत्तु वन्नीटुमारिल्ल ग्रहणादिगळ् ओन्नुमे।
करणङ्ङ्ळुमोत्तीटा सिद्धान्तङ्ङ्ळुमोत्तीटा।।

8. तदा ह्यार्यभटो नाम गणकस्त्वभवद् भुवि ।
'ज्ञानतुङ्गे' ति कल्यब्दे जातनायवजीतले ।।

9. 'गिरितुङ्गे' ति कल्यब्दे गणितं निर्मितं परम् ।
शास्त्रम् आर्यभटीयाख्य तस्मिन् पर्ययमुक्तवान् ।।

10. इव अन्नेरक्कुपायेन कुरच्चिटट्टुं करेट्टिटयुम् ।
कल्यादिघ्रुवमिल्लाते ओप्पिच्चानन्नु पर्ययम् ।।

11. पिन्ने इग्गणितत्तिन्नु नीक्कं कण्टितु भूतले ।
'मन्दस्थले' ति कल्यब्दे 'तनुते' ति शकाब्दके।।

12. पलरुं गणितज्ञन्मार् कूटे नोक्कीट्टु वेच्चतु ।
कल्यब्दाद् 'गिरितुङ्गो' नात् शेषं वेच्चु पेरुक्कणम् ।।

13. पेरुं परिहितमेन्नु गणितं सूक्ष्ममेन्नितु ।
इति निश्चित्य पलरुमाचरिच्चवनीतले ॥

14. चिरकालं कळिव्प्पोळ् नीवकं वळरे वन्नितु ।
'रङ्गशोभा नु' कल्यब्दे कश्चिद् विप्रवरस्तदा ॥

15. पश्चिमाम्भोधितीरत्तु निन्नु नोक्कीट्टु वेच्चतु ।
द्वादशाब्दं कळिव्टिट्टु तन्त्रसंग्रहमेन्नतु ॥

16. तस्मिन् पर्ययवुं पिन्ने स्थूलमायिट्टु चोल्कयाल् ।
'वसुस्मरे' ति कल्यब्दे तुटर्न्नाखनीतले ॥

17. पश्चिमाम्बोधितीरत्तु निन्नु मुप्पतु वर्षवुम् ।
नोक्कीतु गणकन्मारुं 'जनसेवा नु' वत्सरे ॥

18. सूक्ष्मं वरुत्ति निर्मिच्चार् गणितागममन्नवर् ।
इनियुं कण्टुकोळ्ळोणं चिरकालाद् वरुन्नतु ॥

19. ब्रह्माचार्यवसिष्ठकश्यपमुखैर्यत्खेटकर्मोदितं
तत् तत्कालजमेव तत्थ्यमथ तद्भूरिक्षणेऽभूच्छलथम्,
प्रपातोऽथ मयासुर कृतयुगान्तेऽर्कात् स्फुटं तोषितात् ।
तच्चास्ति स्म कलौ तु सान्तरमथाऽभूच्चारु पाराशरम्,
तजज्ञात्वार्यभट्टः खिलं बहुतिथे कालेऽकरोत्स्फुटम् ।
तत् स्रस्तं किल दुर्गसिहमिहिराद्यैस्तान्निबद्धं स्फुटम् ॥
तच्चाभूच्छियिलं वु जिष्णुतनयनाऽकारि वेधात्स्फुटम्,
ब्रह्मोक्त्याश्रितमेतदाप्यथ बहौ कालेऽभवत् सान्तरम् ॥
श्री केशवः स्फुटतरं कृतवान् हि सौरार्या –
सन्नमेतदपि पष्टिमिते गतेऽब्दे –
दृष्ट्वा श्लथं किमपितत्तनयो गणेशः ।
स्पष्टं यथा ह्यकृत् दृग्गणितैक्यमात्र,
कथमपि यदिदं भूरिकाले श्लथं स्यात् ।
मुहुरपि परिलक्षेन्दुग्ग्रहाद्यृक्षयोग्यम्,
सदमलगुरूतुल्यप्राप्तबुद्धिप्रकाशैः ।
कथितसदुपत्त्या शुद्धि केन्द्रे प्रचाल्ये ॥

20. मानसव्याख्यातापि कश्चिदाह – "ननु पैतामहादिभेदेन परस्परविरुद्धाश्च थसिद्धान्ता भवन्ति । सिद्धान्तभेदे सति कालभेदः । कालभेदे सति कालाङ्गानि श्रौतस्मार्तलौकिकानि कर्माणि विकलानि स्युः । कर्मवैकल्ये सति लोकयात्रोच्छेदः । हा धिक्! सङ्कटे महति पतिताः स्मः ।" अत्रोच्यते– ऋजुमते! स न शोचितव्यः । गुरुचरणपरिचरणपरैः किमिव न ज्ञायते ! पञ्चसिद्धान्तास्तावत् क्वचित्काले प्रमाणमेव इत्यवगन्तव्यम् । अपि च यः सिद्धान्तो दर्शनाविसंवादी भवति सोऽन्वेषणीयः । दर्शनसंवादश्च तदानीन्तनैः परीक्षकैर्ग्रह–णादौ विज्ञातव्य :। ये पुनरन्यथा, प्राक्तनसिद्धान्तस्य भेदे सति, यन्त्रैः परीक्ष्य ग्रहाणां भगणादिसंख्यां ज्ञात्वा अभिनवसिद्धान्तः प्रणेय इत्यर्थात्, तत् त इहलोकेऽहसनीयाः, परलोकेऽदण्डनीयाश्च इति ।

21. ननु तपोभिः प्रसन्नो ब्रह्मा आर्यभटाय भगणपरिघ्यादिकं ग्रहगणन साधनभूतं संख्या–विशेषमुपदिदेश । तदुपदिष्टं पुनरार्यभटः सर्वं यथोपदिष्टमेव दशभिर्गीतिभिः निबबन्ध इति के चिन्मन्यन्ते । तस्य कुत : परीक्षणम्, ब्रह्मण : सर्वज्ञत्वात्, रागद्वेषाघभावाच्च, अवितथ–त्वनिश्चयात्, इति चेत् – मन्द ! मैवम् । देवताप्रसादो मतिवैमल्यहेतुरेव । न च पुनः ब्रह्मा आदित्यो वा स्वयमेवागत्य उपदिशेत् । एवमेव वक्ष्यति चानन्तरसूत्रे–

सदसज्ज्ञानसमुद्रात् समुद्‌घृतं देवताप्रसादेन ।
सज्ज्ञानोत्तमरत्नं मया निमग्नं स्वमतिनावा ।।

22. ननु वस्तुनिर्विकल्पासंभवात् कथं परस्परविरुद्धस्य गतिकारणप्रतिपादकशास्त्रस्य प्रामाण्यम् । उच्यते । ग्रहगतिप्रतिपादकं शास्त्रं तावत्प्रमाणं गतेः प्रत्यक्षोपलब्धत्वात् । तत्कारणं पुरुषबुद्धिप्रभवत्वाद् (तात्विकं भवतु) तथाऽपि न कोऽपि दोषः फलतो दोषाभावात्। तत्त्वज्ञानोपयोगिन्याः जीवेश्वरादिविभागकल्पनाया अपि पुरुषबुद्धिप्रभवत्वेन विकल्पस्य दृष्टत्वात् । गतिर्नाम प्रदेशान्तरसञ्चरणं ग्रहाणां तच्च शुभाशुभव्यञ्चकं दिग्देशकालज्ञानो–पयोगी च । काले दिशि देशे य कर्म विधीयत इति ग्रहस्य प्रदेशान्तरसञ्चारज्ञानं प्रधानं फलवत्वात् । गतिकारणकल्पना तु पुरुषबुद्धिप्रभवापि सौरादिशास्त्रेणानूद्यते गतिज्ञानो–पयोगित्वात् फलवत्सन्निधावफलं तदङ्गमिति न्यायात् । यथा कल्पनया शिष्यजनमनः समाधानं स्यात्तथा क्रियमाणायामपि कल्पनायां न क्षतिस्तद्दोषः । अत एव स्थूलवर्तुलदृष–त्परिग्रहादिना वर्णावगति कुर्वाणा बहवो दृश्यन्ते ।
तथा चाह ब्रह्मगुप्तभाष्यकारश्चतुर्वेदाचार्य : ।
यथा वैय्याकरणाः प्रकृतिप्रत्ययागमलोपविकारैस्सत्यरूपैः सत्यं शब्दसाधुत्वं प्रतिपद्यन्ते।
यथा च भिषग्वारा उत्पलनालादिभिः शिरावेधादीन् प्रतिपद्यन्ते तथैव साम्वत्सरा : पलावलम्बमन्दशीघ्रप्रतिमण्डलादिभिर्ग्रहगतितत्त्वं भूमानादितत्त्वञ्ज प्रतिपद्यन्त इति मत्वा सन्तोषृव्यमिति ।

XIV

VYĀPTI ANUGAMA AND THE LOGIC OF THEORY CHANGE

P.K. MUKHOPADHYAY

I: PRELIMINARIES

Theoretical enterprise aims at understanding. There is conception of understanding according to which understanding a phenomenon consists in building a theory containing *truths* about that phenomenon. Theoreticians in different cultures have been following some norm of understanding long before this norm or the related conception of theory found clear and explicit articulation. But once articulated this conception of understanding began to be challenged. The motivation behind this challenge, however, has a much older history. Anyway, I think that the dispute between the advocates and the critics of this norm of understanding have two conflicting motivations, each of which taken simply may be found to be unexceptionable. The advocates of theory maintain that different experiences and beliefs we have about a phenomenon do not constitute understanding proper unless we can find or establish connection between them. When we can organize these beliefs into a theory we not only establish objective relations which connect them but, in doing so, we also bring stability to our knowledge. For, within the interconnected system beliefs have mutual support. Thus building a theory is satisfying the demand of rational or scientific understanding. A theory is a mutually supporting body of connected truths.

The critics are not so much against the statement just made about the nature of theory. They are suspicious about the motivation behind, about the value of stability and desire to ensure it. For once stability is made a value, all efforts will be made to ensure it and the worth of a theory is likely to be judged by this standard. The theory builders will try to secure this stability by forcibly making the theory closed and complete. Apart from the question of viability of such a project and acceptability of the method adopted for the purpose, there is a higher question of value. Such closed conception of theory will impede growth of knowledge. The critics of this conception of theory as a device to organize and stabilize our knowledge, hold it against a value that possibility of growth of knowledge should be kept open always. These critics would say that in spite of all its attractiveness, omniscience - a complete theory or closed universe - creates a stifling atmosphere and man cannot live if they are not allowed to breath freely. In short the norm or notion which makes understanding consist in omniscience cannot be the right conception of human knowledge

and understanding. I am not as yet construing the debate between the advocates and critics of, let us say, fixed theory as a factual or methodological question. I construe it now as a value question. It may be asked why an open theory should be preferred to a closed theory? What makes openness a value? Is it that it is left to our choice whether we should have an open or a closed theory? Against imputing value to openness one may say that there is nothing wrong to complete our theory or knowledge if we can and the critics need be told what was reportedly told to one who became dismayed on hearing that after a certain age, say, eighteen, growth of intelligence in human subjects stops. It was told to him, though we have no knowledge what reassuming effect it produced in the addressee, that we need not be sorry because we can become in eighteen years as wise as a man of eighty years.

We have so far noted two attitudes to theory while interpreting scientific understanding as theory construction. It is a conflict of norms and values, between closeness and openness or completeness and incompleteness of a theory which apparently gets implicated in the issue. These questions of values leads us to the factual question - what actually forces us to accept that a theory remains ever incomplete and our knowledge ever changing? Answer is to be found in the fact of *temporality*.

Now how those who want to bring stability to our knowledge system and those who want to construe it as ever changing go about ensuring temporal openity of theory structure. To put the question this way, I believe, makes way for the suggestion I have in mind, namely, that the values of stability and openity are compatible with the realist understanding of theory construction.

II : A REALIST'S PREDICAMENT

Contrary to popular belief it is the realist who insists on keeping the theory open. Again contrary to what many people think, realists are committed to reality of time and change. Any theory which is true to the fact of temporality is bound to remain open. This openness is not to be construed trivially as simply something being *in* time. What is meant is that the structure and conception of theory must clearly register this openness. I shall argue that to give a theory *utsarga - apavāda* structure is a way of registering in the very structure of a theory the openness which is a sign of vulnerability to time or temporality. On the other hand to set as an aim of a theory only optimum, as against absolute, generality and truth is a way of registering in the conception of a theory the essential openness of it. And this is possible without sacrificing stability and determinateness. But first we must be clear about how temporality and incompleteness of knowledge are related, so that we can fully understand the relation between temporality and theory structure.

To begin with we may remember how the point was put to Einstein in theological terms by Popper. If God had wanted to give us from the beginning a complete world, then he would have created a world without change, without man with his experience of change. But as it is, the world is full of change featuring temporality as its inalienable character. Similarly, it has been said about the great physicist Boltzmann that he came to hold that objective arrow of time and unidirectional change are illusion. Thus he "makes our world an illusion, and with it all our attempts to find out more about our world. It is therefore self-defeating".[1] This is an objection which a realist brought against a sort of an idealist view. But the similar objection is brought against realist theory builders by, say, process philosophers[2] or those who stress dynamics of theory as against statics of theory. The upholders of dynamics of scientific theory are sometimes represented as ascribing irrational character to the natural sciences and making scientific progress impossible. But as Stegmuller has shown, this is incorrect. Rather from the point of view of dynamics of theories, the realist's technological concept of progress is useless, "and it is useless because only God or the Hegelian world spirit have at their disposal a yardstick by which to measure the distance of a theory from the 'true state of nature'".[3] It is not a place for me to discuss the claim that Kuhn's thesis - that the form of progress involved in the revolutionary dislodgement of theories is non-cumulative - is perfectly compatible with the idea of cumulative increase of knowledge in course of such revolutionary phases. My purpose is to show that one can fully accept the value of scientific progress and believe in theory dynamics. Further, the choice between theory dynamics and theory statics is not as easy as a choice between realism and process philosophy. I wrote about the latter choice elsewhere.[2] Here I want to defend realist theoretical enterprise by suggesting a way of looking at temporally open theoretical structure and show how it works. This I did not do before so explicitly or in the Indian context. Even so I shall bypass the debate between upholders of theory dynamics and theory statics. The space and time I save thereby shall be used to elaborate on Indian conception of theory. For that purpose I shall speak, if somewhat generally, about alleged *discrepancy* between the two demands the realists put on a theory. A theory should give stability to our knowledge and it should be true about reality. This truly is a realist's predicament.

III : SYNTHESIS AND ADEQUACY AS FEATURES OF TEMPORALLY OPEN THEORY

The work of building a theory is not just organizing certain information or beliefs or sentences. The point is to give the beliefs or our understanding a sort of stability. The structure of a theory does something to the individual truths which are contained in it. The overall structure gives the truths some kind of support and justification. Thus the huge steel structure above the carriageway of a cantilever bridge is not a mere decoration. Mutual support the parts provide to themselves save them and the whole structure or the bridge from falling to the ground. Thus a theory is not just a collection of truths but a network of mutually or, perhaps, in a linear way, supporting

truths. It is therefore easier to challenge or reject an isolated statement but not a statement of a theory. Within the unity of a theory individual truths, so to say, stand united; and united they stand but divided they fall easily. But there is another point about a theory. It is not just a play thing in the hands of playful masters of formal games, it is not an interpreted formal calculus. A theory is a picture or map of reality. This is another way of saying that a theory is an interconnected body of objective truths. It is not merely a form, it has content also. And here comes the question of the presupposition which enters into the very conception of theory which a realist has. Unless there is a stable reality to be pictured there cannot be a theory of realist's description. But that there is such a reality, the theory itself cannot justify. It may even be the case that there is no independent proof for such a reality. This clearly suggests that it is a matter of presupposition. The objection of the critics is that this presupposition is false and, what is more, realism trends to create an illusion that this is true. This illusion is so old and well entrenched in our culture, in our beliefs and practices, that common sense beliefs and practices are now cited as supporting realism. The critics maintain that the actual reality does not support or get pictured in the theory. The reality that does get pictured is the creation of the theory itself. And this has been created by distorting the actual reality. The realist have imposed their theory on our ways of looking at things, thinking about them and dealing with them. One way of giving content to this objection is to take the objector as saying or meaning the following. The actual reality may not be an enormous diversity verging on chaotic and disorderly infinitude of plurality. But it is not a coherent whole of fixed pluralities either. It is a living organic whole, ever growing, changing and manifesting hitherto unknown features. No part of this reality can be grasped separately and the whole is ever in the making. Bounds of a finished theory, however comprehensive it may be, is sure to prove too inadequate for such a reality. And an open theory is either not a system of mutually supporting parts or is not fully protected against contradictions or paradoxes. Such a theory does not satisfy the demand of providing foundation or justification. The critics therefore hold that the realists wrongly think that there are fixed unchanging truths to be gathered into a theory or that there is static reality to be pictured in such a theory. Neither all truths or knowledge nor the whole of the world has been given to us in one moment and timelessly. This could have happened only if time were unreal. But if time is real, if temporality is a feature of our knowledge and reality then either theoretical enterprise cannot begin or an anti-realist notion of theory is to be adopted.

What can be said in defence of theoretical enterprise along a realist line? A realist does not, and does not want to, deny the fact of time, change or living reality. This is specially the reason why the realists sharply distinguish a theory from a merely formal system. But the critics want more. They want us to abandon the theoretical enterprise as an enterprise of stability of knowledge. This amounts to advocating theoretical or intellectual anarchy. The point against a theory is not that it is a bad theory but that it is a theory after all. But this is self-stultifying a position. What can be reasonably expected of a theoretician is not that he should stop theorizing but that his theory should always be open so that it can accommodate or

can cope with changing reality and growth of knowledge. This much the critics could easily anticipate. But they are not convinced that this defence works till the realist can show how and in which sense a realist theory can be open. They have to show further the actual evidence of such openness in the very structure of theory itself. In the first place the defender of theoretical enterprise is to explain by which device a theory can ensure stability of our views about reality and at the same time accommodate a changing world or the possibility of growth of knowledge. I suggest that a theory itself is that device.

As to what is to be meant by a theory remaining open, the answer is: it means a theory should be open to facts. It should recognize a scheme - content distinction, independence of fact over theory and independence of objective constraints. In principle the theoretician should be prepared to change or even abandon a theory if nature of reality so demands. A clear stand should be taken in favor of an 'open' universe - in which the future was in no sense contained in the past or the present, even though it is constrained by them,

Popper argued that, "we should not be swayed by our theories to give up common sense too easily. Einstein clearly did not want to give up realism (for which the strongest arguments were based on common sense), though I think that he was ready to admit, as I was, that we might be forced one day to give it up if very powerful arguments (of Godel's type, say) were to be brought against it".[4] I do not of course think that the sort of incompleteness that a theory essentially has, in so far as it is committed to remain open to fact and correction, entails that it cannot be true. We can agree that any explanatory theory including physics may develop or evolve endlessly. But the development is not towards ever unattainable truth,ever unattainable for man and perhaps attainable only by God. Truth, a theory may attain at any stage of its development. And at any stage a theory achieves certain amount of unification. But there always remains more to be attained by way of unification. Development of knowledge or science is towards greater unification and this movement is not necessarily through correction and rejection of the old and original system; but primarily through re-examining on the one hand the foundations and fundamental concepts of the original system at any given time, and discovering important connections both intra-systemic and inter-systemic on the other. This second accounts for unification and the first for the fact that man's quest for knowledge never ends, his norm of understanding becomes ever more exacting.

It is not therefore a bad joke if in answer to the question of the critics of realist theory, 'How a theory can combine stability of knowledge with growth of knowledge?' one says that 'theory itself is the device'. For if a theory is built with the awareness that we should avoid both anarchy and indoctrination (in theory) then the theory which is built is found to have certain nature and form. Such a theory may be found to stress the value of unification and generalization; but care is taken to avoid *empty* generality. While dealing with a concrete, objective and living reality we are to treat phenomena at the level of *adequate* complexity.

The classical atomistic behaviorism based on atomistic physiology was a very neat system of the sort required to ensure certitude. But the phenomena being studied was more complex and rich. Our theory should have to be *adequate* for this richness even if that requires us to give up certainty in favor of statistical regularity.

A realist takes care not to impose procrustean unity of a theory on reality in the name of doing science or organizing knowledge. He would not abstract from the richness of reality which gives the latter its concrete character. If generalization and unification is to be achieved at the cost of the detail and the concrete then we end up with empty generality; with a theory so thin that it is practically of no use. Kant's moral theory is alleged to be a case in point. The value of generality and uniformity is not questioned. Abstract unity which gives definite result is methodologically best suited to start with. This makes our job of discovering, justifying and synthesizing truths easy. So, it is no wonder that in modern times physics developed first and it developed very fast; no wonder that it is more exact, amenable to mathematical treatment, more rigorously experimental and had led to deeper analysis of nature. Nor is there any justification to think on this account that physics is more important or more scientific. The truth is that "physics is the most abstract and therefore the simplest science. It consequently obtained a headstart over the other sciences, grew and developed earlier and faster, and was able to probe deeper and more rigorously into its own area of study just because this is a secluded domain at the furthest remove from the actual complexities of nature...".[5] Whatever may be the truth about physics the quoted remark bears it out that rigor can be got at the expense of complexity. But realist commitment to both rigor and complexity views scientific progress as gradual unification aiming at, in the words of Hawking, "*complete* understanding of the events around us, and our own existence".[6]

There is another line in which science and human knowledge or, better, understanding progress. And this has more direct connection with temporality. A theory which is non-essentialist in the Popperean sense of the term remains open in that it takes facts seriously. It is about the fact, about world which is changing. Hence at any moment recalcitrant fact may show itself; and in principle the theory runs the risk of being falsified. But this does not mean that we give up theory so easily. We often utilize such situation to guide us to new discovery. This is done by adding what has been called auxiliary hypothesis *ad hoc*. But immunizing a theory against contrary facts of observation by introducing such auxiliary hypothesis would be *ad hoc* in the bad sense if this hypothesis itself cannot be tested and defended. In short whenever a theory meets with a recalcitrant fact there are two courses open to the theoretician. He can explain this newly observed fact in terms of falsity of his theory or by adding some auxiliary hypothesis and thereby making suitable provision within the theory. The first is the easier way. This is unrealistic and hardly any serious theoretician goes this way to earn, cheaply, the praise due to a critical man. But the other way may turn into a dogmatist's attachment to his theory, which tends to save the theory at any cost - even by introducing, *ad hoc*

adjustments at any time. What a serious theoretician does instead is, add such auxiliary principle as may be inferred from the truth of the original theory and the acceptance of the observed recalcitrant phenomenon. Then there are genuine alternatives to choose between rationally, that is, one is to be defended. Either we accept our original theory by defending it, where defenses consists in showing that the original theory derives its justification from a source, has certain evidence, which the recalcitrant fact cannot match. Or we defend independently the auxiliary principle and show thereby that it is not just an *ad hoc* device to immunize our theory against criticism. What is added in the beginning as *ad hoc* device can now be seen as an integral part of the theory itself. It is fortunate that Newton's theory was not abandoned because observed motion of Uranus was found to be recalcitrant.

IV : RECALCITRANT FACT AS AUXILIARY PRINCIPLE IN THE STRUCTURE OF OPEN THEORY

To put it briefly, theoretical enterprise aims at rational understanding. And this involved organizing, that is, unifying and justifying our beliefs about facts. In other words we are to build a theory: A theory explains; unifies and simplifies the phenomena it studies; it brings justification and stability to our knowledge. Lest, however, a theory becomes an empty generality and imposes procrustean uniformity killing the living reality and growing knowledge, it must always remain open to be constrained by the temporality and complexity of the real and changing world. It is not enough to be thus open; it should register this openness in the very structure of it. One way in which this can be done is that there should always be a provision for accommodating recalcitrant fact by incorporating new saving principle which might appear at first to be a mere *ad hoc* device. Any theory of standing may at any time, be found to have its structure determined by the presence of both general laws and auxiliary hypothesis waiting to be tested and, once tested, unified with the established truths of the theory. Process of intra-systemic and inter-systemic unification and synthesis continues for ever. We want a theory to explain certain given phenomena and to bring order and stability to the beliefs we have about them. But the theoretician should not make an easy job of it by abstracting from concrete details. This implies that we should conceive of theoretical enterprise as aiming at optimum generality and certainty as against absolute completeness and finality forever. That much on the conceptual side. On the side of theory-structure there should always be statement of definite conditions indicating the range and occasion of the application of the theory. These conditions may be stated as part of the otherwise general law, or they may be stated in the form of auxiliary principles complimenting or immunizing the general law in recognition of actual existence of some recalcitrant fact. Viewed positively such auxiliary laws not only restrict the domain of the general law but themselves serve the explanatory function in regard to the phenomena the general law does not apply. What I say about law and fact will hold with suitable adjustment in case of rules or operations or practices. This is exactly what theories in the Indian tradition ensoul in their *utsarga - apavāda*

structure. We shall return to the question of auxiliary principles later. Before that a little more is to be said about theory and then about Indian context and *vyāpti anugama*.

V : PRELIMINARIES ON THE IDEA OF THEORY IN THE INDIAN CONTEXT

We should distinguish the following: (i) having proneness to ask theoretical questions or giving into theoretical curiosity, (ii) being theoretically enterprising, (iii) having a theory and (iv) having a conception of theory. In the life of an individual or of a civilization these phenomena emerge or manifest themselves roughly in the order in which they have been enumerated here. But did they at all emerge in Indian civilization? Availability of any theory in Indian heritage has itself been questioned. It is believed that it would be anachronistic to claim that there was any such thing as 'theory' in India. For the notion of a theory is inseparable from the development of modern science and scientific culture, whereas it is claimed that "science can today be seen to be the most typical creation of the thought of this (Greco-European) civilization".[7] On the other hand many believe and with justification that Indian theoreticians had build long before the modern scientific culture was born in the Greco-European tradition, any number of theories which meet the standard of modern scientific theory. It is however, not easy to demonstrate that in India there was available a clear conception of what a scientific theory was, what were its ingredients and uses. Even in Europe, history of scientific theory is much older than the history of clear conception of scientific theory. One essential ingredient of a conception of scientific theory is the notion of rigor in reasoning and formulation. But even an initial attempt at what it means to attain complete rigor and certainty even in science like mathematics remained unknown at least till 1879 in Europe.[8]

Greater part of this paper will be devoted to presenting some evidences, and interpreting them, to yield a clear statement of an Indian conception of theory. For obvious reasons, I shall confine my search to one area of theoretical enterprise only, namely, philosophy and there again to Indian philosophy or more particularly to Nyāya. I have argued elsewhere[9] that the emergence or articulation of certain conception must antedate the creation of that of which it is the conception. So nothing is definitely proved if in the classical period of Indian theoretical tradition availability of articulations on the nature of theory is not as evident as the presence of theories. Besides, the right place to find articulations regarding what is or should be the nature or structure of a theory are history and philosophy of science rather than the works of the scientists themselves. And these disciplines appeared much late in the theoretical scene. Another two related reasons why clear articulation of the nature of theory in India might not have been readily available are: one, Indian theoretical heritage is marked by the conspicuous absence of any sharp distinction between science and other theoretical disciplines; and second, on its theoretical or intellectual side, this heritage is, though scientific, not science dominated.

Sciences and philosophies did develop in India but there is little evidence of overt positive or negative impact of science on philosophy or of philosophy on science as one witnesses in the Greco-European tradition. Sporadic attempts have been made in recent times by some self-styled historian of Indian science and culture to single out some philosophical system of India as a major reason for the decline of her sciences. These are more often than not muddled thinking and confused history.[10] So when I said that Indian theoretical culture was not science dominated I did not mean to commit the opposite error. I did not mean to eulogize Indian culture on this very count, even though I believe that one might do that as well and rightly. My point here is that these are facts of or truths about Indian theoretical heritage that there was no sharp distinction between science and other theoretical disciplines and there was absence of domination by disciplines which go by the name of science today. These are facts and truths to be noted, they need not have to be eulogized or deplored.

Not only sciences did not enjoy any superiority over other theoretical disciplines within science but also no particular science was considered more superior or basic as mathematics once was held to be in the Greco-European tradition before and as physics is being held to be so now. But though no science was made the paradigm of organized knowledge and though whatever distinction was made between science and other theoretical discipline, it did not imply any relative superiority or inferiority. Yet theoreticians seemed to lay great stress on the need to abide by certain theoretical norms and values. It is this which turned the systems of science, philosophy, linguistics or whatever it is that the Indian theoretician built, really scientific both in nature and form. Thus, though attempt was never made to model theoretical inquiry in every field after one or other single developed science yet theoretical studies other than strict sciences achieved a great amount of systematization and rigor. This could hardly be the case if the theoretical norms in question were not followed consciously. And it would not have been possible for theoreticians working independently in different fields to follow consciously certain norms if these norms did not receive adequate amount of clarification, and consolidation, defence and demonstration. So parallel to the development of theoretical disciplines there must have been developed the conception of what it was to be scientific or rigorous. My aim is to show that this has actually been the case. And the argument we have just constructed in favor of the availability of Indian conception of theory is designed merely to guide us to search for it with confidence. Availability of the conception of theory and paucity of clear articulation of such conception are but what one should expect to go together.

A theoretical enterprise is scientific if it is a conscious attempt at rational understanding through building theory in some definite sense of the term. We have remarked that Indian intellectual culture is scientific though not science dominated. Credit goes mainly to the Naiyāyika-s for both formulating explicitly and illustrating, in their own system, what it means to be scientific or what it means to build or have a theory. They were aware of both the need and nature of a theory and also perhaps

the problem connected with building a theory. I have no scope here to argue it in detail or illustrate it adequately[11]; but I think that just as the need of a theory is the rational understanding it yields so also the nature of it consists basically in logical order and unity. I shall also take it as agreed that the greatest problem for a working theoretician is to avoid both *empty* generality or unity on the one hand and chaotic plurality or disorderliness on the other. Once we agree to take theory to have factual content or to be about reality then it is exposed to the argument from temporality. This argument can be carried to any extent. But if it is carried to the extreme then there arises a self-stultifying theoretical position which contends no theorizing, no truth is ever possible. The corresponding extreme practical attitude will be one of abandoning theoretical enterprise altogether, or even any organized body of belief or any institution. On the other hand theoretical demand for unity can be pressed too far; and then it would turn out to be a demand for completeness. What corresponds to it is disbelief in the growth of human knowledge. The right conception of theory is one which does not interpret *unity* radically to mean *completeness*. Similarly the only important sense in which a theory can accommodate temporality is by remaining open. But in which respect a theory remains open? In respect of unification or synthesis or generalization.

One more point remains to be reasserted. A theory is open in an important sense if only that openness is built in the very structure of it. The theory structure itself should show and secure the essential openness. In the next section I shall identify mainly in the Nyāya literature, concepts and arguments which unmistakably show that the Indian theoreticians were aware of all the ingredients of a good conception of theory. I shall argue that the development of Nyāya theory of inference in some respect is an example of progressive unification or *anugama*. Though I shall be primarily concerned with *vyāpti anugama*, I shall also discuss the related topic of the problem of finding *anugatalakṣaṇa* or uniform definition of inference. This will enable us to explain or illustrate what sort of thing I mean by *empty* generality.

VI : CONCEPT OF ŚĀSTRA

The major ingredient of the concept of theory becomes system of unity. The basic task of theoretical enterprise is unification without any predisposition towards choice of subject matter of a particular theory. I propose that *śāstra* be taken as the Indian analogue of the theory in the broadest sense. But this expression *sastra* is also ambiguous. *Śāstra* is commonly understood as a system of rules or better system of statements of rules deriving their sanctity from some non-human source. The *Dharmaśāstra-s* are *śāstra* in this sense of the term. But none of the three basic *śāstra-s*, the *padaśāstra* or *Vyākaraṇa*, *vākayaśāstra* or *Mīmāṃsā*, and *pramāṇaśāstra* or *Nyāya* - is a *śāstra* in exactly the same sense in which *Dharmaśāstra* is a *sastra*. It is by itself an useful, interesting and challenging task to fully explicate the notion of *sastra*. We may need a whole discipline to deal with

various definitions and divisions of *śāstra-s*. What I would like to do therefore is just to state the sense in which *sastra* can be a synonym of 'theory'. It should also be the sense which the expression already has independently and not given to it by us in order to use it as synonym of theory.

Śāstra means *tattvajñāna* or what yields that *tattvajñāna*. Vācaspati Miśra had written in one place *"tattvajñānaṃ śāstraṃ ucyate"*.[12] Both *sastra* and theory have to do with knowledge or truth. Further, I shall use *sastra* mainly in the sense of *vicāra śāstra* as distinct from *āgama śāstra*. I shall not however think that this distinction has much to do with the familiar distinction between speculative and practical reason or between descriptive and prescriptive discourse. It is true that even so *Vyākaraṇa* will not be as clear an example of a *śāstra* as *Nyāyaśāstra*. But nor will it be as clearly outside the domain of the reference of *śāstra*, as we use it here, as *Dharmaśāstra*. When one uses *śāstra* in this broad sense one does not give the expression which it did never have in Indian tradition. But one has abstracted from the source of the regular associations which the term has. Thus, a *śāstra* is regularly associated with a goal other then knowledge. Whatever knowledge a *śāstra* yields is a means to that goal which happens to be one or the other of the *puruṣārtha-s* or goals of human life.[13] We do not deny that a *śāstra* in our sense of the term even has such a goal. But we abstract from any reference to that. Again the sort of inquiry which is normally associated with *śāstra* has three moments in it. In our use of the term, here we have abstracted from the first and the third moments - of *śravaṇa* and *nididhyāsana*. We concentrate on the second or the *manana* only. And this consists in logical investigation on *nyāyacarcā*. So far *śāstra*, as the term shall be used here, would mean a systematic body of truths ascertained or arrived at about certain subject by means of logical reasoning (*vicāra* or *nyāyacarcā*).

This logical reasoning in its turn is backed by standard means of knowledge (or *pramāṇa-s*). In abstracting from the first of the three moments of *vicāra*, which is usually associated with *śāstra*, we have abstracted from the associated idea that *śāstra* begins from something stated first in the scriptures. It is clear that we have dropped form our use many features of *śāstra* as is generally understood. But the sense the expression carried in our use is retained from the original sense of it. We did not mean to secularize the notion but to widen it, though as a result of widening of its scope, we can now have a political or scientific theory as much as we can have a theory of God or of worlds. This much was clearly envisaged by the Indian theoreticians, otherwise they would not or could not have developed so many diverse *śāstra-s* almost in every area of experience and interest.

VII : NATURE OF UNITY OF ŚĀSTRA AND ITS OPENNESS

As an example of a theory I shall cite such philosophical texts as Gautama's book of aphorisms which is a systematic presentation of the philosophy of Nyāya.

Gaṅgeśa's Tattvacintāmaṇi is another example of theory or *śāstra*. It is a book where we find systematic presentation of Nyāya theory of means of knowledge. If Gautama's book can be treated as *darśana śāstra* of the Naiyāyika-s, Gaṅgeśa's book can be treated as *pramāṇa śāstra* of the Naiyāyika-s. Gautam's *darśana śāstra* already contains a *pramāṇa sastra* and Gaṅgeśa's *pramāṇa śāstra* is the same *pramāṇa śāstra* stated more fully. It may therefore be suggested that Gautama's text should not be cited as a single theory, it is a network of theories. Indeed it is. But so is Gaṅgeśa's Tattvacintāmaṇi which can be viewed as a network of at least four theories: the Nyāya theory of perception, the Nyāya theory of inference, the Nyāya theory of knowledge by analogy and the Nyāya theory of knowledge by verbal testimony. The process can be carried further. For each of these theories of perception, inference etc. can be seen to deal with a variety of clearly distinguished subjects. So it is not easy to decide what individuates a theory. What gives unity to a theory? What encourages us to say this theory or this much of a theory is the theory of, say, inference? Then there is a further question. Is every theory a network of sub-theories? Can there be a unity called network of theories? In the way the Naiyāyika-s use it, the expression *grantha* applies to Gautama's or Gaṅgeśa's text as a whole and again to any chapter, section or sub-section of it. A group of sentences, however small or large, is said to be a *grantha* provided it is a group in the acceptable sense of the term. (I do not consider the fact that this word is very frequently used to refer to a single sentence). There is also no fixed rule or convention which determines the number of sentences in a theory.

What is common to all these uses of the expression *'grantha'*, excepting one mentioned in the parentheses is that a *grantha* is a unity. Which unity it is, is a question. There are different types of unity. But what do we mean by a unity here? Now, a *grantha* is our example of a theory. It is a group of sentences displaying first the unity called *ekavākyatā*. Literally, therefore a *grantha* is one single sentence. This is at best figurative and at the worse it is as vague and superficial as just unity. But it cannot mean just a string of sentences. A book is not merely a long conjunctive compound of a finite number of conjoined sentences. The concept of *ekavākyatā* can be traced to Jaimini. There *ekavākya* seems to have the literal meaning of 'a single sentence' and *ākāṅkṣā* has been used there as principle of individuation.[14]

What is common to all these uses of the expression *'grantha'* is that *grantha* is a set of finite number of sentences having certain unity. Now there are various types of unity and we have different words for them. Each type of unity has been clearly explained in the literature and each of the terms used to signify unity has been given explicit interpretation. A *grantha* usually has different kinds of unity. I shall here talk only of two or three of them. To begin with there is the concept of *ekavākyatā* which comes very close to the concept of unity, where unity again is understood as unity of theory which consists of a number of sentences. A theory is a connected body of sentences and our term for theory is *sastra*. A *grantha* such as Gautam's Nyāyasūtra or Gaṅgeśa's Tattvacintāmaṇi is our example of a *śāstra*. Each of

these books is a finite sequence of sentences. But the sentences are connected and the connection is more intimate and important then can be captured by the description, say, 'have been produced by the same person'. The unity of a *grantha* is not again just the unity of a conjunction, if we allow that any two sentences can be conjoined.

The notion of *ekavākyatā* has been given different interpretations, in each case a clear interpretation. This creates the suspicion, perhaps, *ekavākyatā* is not a single notion. Taken literally it means the property of being a single sentence. But in this sense a whole *grantha* cannot really have *ekavākyatā*. Besides in none of its two standard contexts - *padaikavākyatā* and *vākyaikavākyatā* - the word *ekavākyatā* can mean what it literally means. Raghunatha Śiromaṇi has used the expression *granthaikavākyatā* in a context where he clearly has unity of two *grantha-s* in the sense of two chapters of a single book, in mind.[15] Two *grantha-s* or theories in a network of theories have unity called *granthaikavākyatā* if there obtains between the subject of these two theories the relation or relations called *saṃgati*. If the author has followed consciously in his writing a rational order, then a new chapter discusses only such matter whose inquiry might have been given rise to by what has gone before. If matters discussed in the different chapter's of the book are so related then the subsequent chapters or *grantha-s* have *ekavākyatā* with their preceding chapters. Gadādhara has given a clearer statement of *granthaikavākyatā*. Two book or *grantha-s A* and *B* have *ekavākyatā* if *B* contains answer to questions which were occasioned by *A* or, alternatively, if *A* occasions or raises certain inquiry to which *B* holds an answer.[16] If in one chapter of a book contain phenomenon has been shown to have the character of being an effect of some other phenomenon then there arises an inquiry about the nature etc. of that other phenomenon which is the cause. The two chapters or theories dealing with these two phenomena will have *ekavākyatā* in the sense in question. *Granthaikavākyatā* in this sense consists in *sākāṅkṣatva*. The insistence on well connected-ness of a theory demands even more. However, small a *grantha* may be, it will consist of a few sentences. What connects together sentences of one single theory or *grantha*, even the smallest one? Certainly there cannot obtain *granthaikavākyatā* which obtains between two theories or *grantha-s* embodying such theories. The Naiyāyika-s speak of another type of *ekavākyatā*. *Ekavākyatā* this time means *ekārthapratipādakatva* or *viśiṣṭaikārthapratipādakatva*.[17] This roughly means that the sentences, between which *ekavakyata* obtained, jointly describe certain unitary subject or topic. *Ekavākyatā* in this sense has been made another part of the meaning of *granthaikavākyatā*. I disregard here this part of the meaning. For, though this *ekārthapratipādakatva* makes good sense as part of the Jaimini's clear notion of *ekavākyatā*, I do not think that it makes clear sense when it is made a part of the meaning of *granthaikavākyatā*. But the remaining part of the meaning of *granthaikavākyatā* as has been formulated by Gadādhara and explained by us above, that is, *sākāṅkṣatva* is too weak to pass for the connected-ness a theory demands. Besides it can hardly explain unity either.

The important point the Naiyāyika-s want to bring to our attention seems to be that the network of a finite number of complete theories as, for example, Gaṅgeśa's Tattvacintāmaṇi, is a unity. This unity is to be understood as inter-systemic unity of connected theories each of which is in its own way complete. Each such complete theory can be broken into a few sub-theories, if we like. And the inter-systemic connection between these sub-theories can be understood as *ekavākyatā* in the sense of *ekārthapratipādakatva*. In no substantial sense of this term, *ekavākyatā* of this type can obtain between different complete theories. But there is a difference. The way inter-systemic interconnectedness has been understood so far, that is, as *sākāṅkṣatva*, it can be found to obtain not only between two complete theories within a network of theories, it can obtain also between two sub-theories or partial theories within the unity of a single theory. It can obtain between almost any two sentences within the huge number of sentences which make up a network of theories. For example, it obtains between first two sentences of an argument or *nyaya* consisting of a total of five sentences. This shows the interconnectedness of the elements within a theory and the unity of a single theory are not one and the same thing. The first two sentences of an argument have *sākāṅkṣatā* but they do not have the unity of an argument.

The result so far is this:- two ingredients of the conception of the theory are interconnectedness and unity. *Ekavākyatā* in the sense of *ekārthapratipādakatva* can answer the requirement of intra-systemic connected-ness and the unity of a theory. But it can hardly account for inter-systemic connected-ness of *granthaikavākyatā*. Nor therefore can it explain the unity of such network of a theory as Tattvacintāmaṇi. *Ekavākyatā* in the sense of *sākāṅkṣatva* is a wider concept and we can describe both inter-systemic and intra-systemic connected-ness as *sākāṅkṣatva*. But it cannot be used to determine unity whether of a theory, or sub-theory or network of theories. Whereas unity implies some sort of completeness, *sākāṅkṣatva* we find in, say, *granthaikavākyatā*, implies openness. The idea is that in a body of sentences, however large be the number, held together by *sākāṅkṣatva*, as has been defined by Gadādhara, we can never find a place to stop. For the very sentence, section, chapter or book, which answers one query may give rise to one or more new queries. And the theory will remain open. It could finally come to a close if all possible inquiries of all possible inquiring beings could be answered or stopped otherwise. Such time can come! But at least that is not envisaged in the theory itself, that possibility is not rooted in the theory. Thus theory remains ever incomplete. It remains ever open. Growth of human knowledge is ensured forever.

There are two points here. However great social or psychological value incompleteness of a theory may be, and how so ever it may please the critics of theory, it is no theoretical value. For theoretically speaking, what counts most are truth and justification. It is not a great theoretical virtue that a theory envisages permanent incompleteness. But a great theoretical virtue of a theory is that it clearly envisages that there can never occur paradoxes or contradiction. An ever open

theory runs the risk of being falsified in future by some recalcitrant phenomenon. This may happen. But the possibility should be rooted not in the theory itself. Let our general philosophy - our acceptance of temporality as a fact or, say, an interfering force - suggest such vulnerability of our theory. But it is no great virtue if a theory envisages its own logical weakness or preserves it. There is a cheap device whereby an even incomplete and growing theory also can be given perfect logical strength and protected against paradoxes and contradictions in advance and forever. We can define truth as whatever inference rules yield or whatever answers a query. But that will lead to circularity. If all this speaks in favor of completeness then Gadādhara may be charged with giving us an unacceptable conception of theory. It is a conception which leaves any theory logically imperfect by introducing an essential openness into it. It would be best if we could happily combine incompleteness and completeness, that is, what they respectively secure: temporality, in its positive aspect of growth of knowledge, and logicality or rigor. This may be possible if we conceive of unity in the sense Gautama must have understood it.

This brings us to the second point. (It is also a point where we can make transition to *prācīna nyāya* of Gautama and some of his followers). It is the requirement of unity which we were discussing till we suddenly broke away from it in the paragraph preceding the previous paragraph. I may not be taken to mean by unity requirement of a theory, such unity as can be had in, say, fully axiomatised theory alone. Or in any theory where there is available a perfect recursive machinery and where the whole theory is as good as given simultaneously or in one single moment. Such a theory can so far be said to be atemporal and also complete. If any one fails to see the whole that is his fault. It would be preposterous to demand that every theory should display unity in this strict sense of the term. On the other hand *sākāṅkṣatva* is not only too loose to define unity, it keeps a theory open in a very strong sense. For, to demand of a theory that it should be a connected body of truths, where connected-ness is defined as *sākāṅkṣatva* and over that not to supply any sense in which unity can also be found in a theory, is to make the theory too much open.

How can we happily combine unity and incompleteness? Gautama seems to have a simple answer. But what is meant by happy combination? First, everything of value which each of them serves must be preserved. Secondly, and this is important, unity should be defined within theory or wholly in theoretical terms. We have seen that once interconnectedness, the other requirement a theory is to fulfill, has been understood as *sākāṅkṣatā*, we may be tempted to picture unity as an end of all *ākāṅkṣā*. Even if this does not amount to the unity of a full circle, yet the linear unity we shall have in the completeness may be achieved. Even then our conception of unity or theory would be monolithic in a very strong sense. There can be, if at all, only one complete theory or, since unity is a necessary feature, only one theory. This will not count as a grand unified theory in any important sense. It will be another instance of empty generality. But this seems to be the only way left in

the system of Gadādhara to conceive of unity. There remains a further question how to conceive, in theoretical terms, end of all queries? The other way is to smuggle in non-theoretical consideration in answering theoretical question. For, then we could answer in terms of *pralaya* (deluge) or *mokṣa* (liberation) or even in terms of physical or mental death, perhaps the end of all queries.

Gautama's system suggests that we can explain unity in terms of unity of subject matter. A theory, as we shall see more fully, begins by listing exhaustively the phenomena to be studied. A book or *śāstra* begins by listing exhaustively topics to be covered. These things are so related that discussion of one develops into the discussion of the other till the whole list is exhausted. And where that has been done we have reached completeness. But new questions, other queries relating to the field already traversed will continue to be raised for ever. Within the generality of a complete theory we have indefinite scope of specialization. And more we specialize, newer and newer territories we discover. A theory remains internally open forever. Growth of knowledge follows more often the path of specialization. Sometimes men with a broader vision like Einstein looks beyond a relatively narrow scientific theory and discover new inter-systemic link. This paves the way for the emergence of a new theory, a unified and generalized theory. Expansion of knowledge generally follows the path of inter-systemic unification. But the distinction is contextual. For once specialization identifies and isolates, within the territory covered by a theory, some area where further investigation yields new, more definite and restrictive theories, we shall have scope of and question about inter-systemic unification. Or better, the unity of original theory is to be reworked. Newer unification will have to be brought. Thus what is from the point of view of the original theory a question of intra-systemic unification looks like inter-systemic unification of theories brought into existence by specialized research.

VIII : METHODOLOGICAL RIGOR AND STRUCTURAL UNITY OF ŚĀSTRA

It may be noted that Gautama in his text Nyāyasūtra has meticulously followed certain order. This has given his system a unity which is more than the connectedness in the sense defined. What makes Gautama's book an example of a perfect system or theory is the presence of unitary and rigorous method of treatment. The method and order actually exemplified in Gautama's system have been given explicit and clear formulation by Vātsyāyana[18]. Accordingly we may attribute to the Naiyāyika-s, for all the Naiyāyika-s and even other follow Gautama in this respect, the view that we do not have a *śāstra* or theory of a thing unless we list it, classify it, define it and test it. To explain, any well built theory must contain sentences listing exhaustively and explicitly everything the *śāstra*, as a network of theories, is about. The listing is done by uttering or writing the names of things being listed. Sometimes the sentence which states such listing contains only the names of all the things coming within the actual scope of the theory. Sometimes again the number of the

listed things is separately and explicitly mentioned. Thus while listing the types of *anumāna* that are there to be discussed Gautama not only uses the names of each of these types but also said that the number of types of *anumāna* is three. We can exhaustively list the persons who are there in the room - say, there are only two persons Ram and Hari - if we just say "Persons in the room are Ram and Hari". But we can also say "Persons in the room are two - Ram and Hari". Gautama sometimes followed one and sometimes the other way of listing.

In Vātsyāyana and more in subsequent literature, extensive discussion can be found as to how we can express in our list itself (that is, in the sentence which express the listing) that the list is complete or exhaustive. But the first thing about a *śāstra* is exhaustive listing of things the *śāstra* is about. Vātsyāyana explicitly says what this listing means. A *śāstra* should begin by listing and this consists in writing down or announcing as the case may be, in succession the names of all the things the *sastra* is designed to be about. Through such listing the subject matter is introduced. Then wherever possible the thing introduced or listed is divided.

While dividing the listed items we should follow the order which was followed in listing them. Again in the same order, each listed item and each of its divisions is to be defined. Once that is done the results so far will be put to test. By results is to be understood not only the definitions of respective items. Definitions have most certainly to be put to test. But we are also to put to test all the relevant beliefs and assertions of and abou the things in question. To illustrate, in the very first *sūtra* of his book Gautama lists sixteen items. These are the things his *Nyāyadarśana* is about. If we take full treatment of each of these items to be itself a theory, then *Nyāyadarśana* of Gautama is a network of these sixteen theories. The first of the listed items is *pramāṇa*. So among other subjects *pramāṇa* also has been introduced in the very first *sūtra*. He then divides *pramāṇa* into four in his *sūtra* 1.1.3 into-*pratyakṣa* (perception), *anumāna* (inference), *upamāna* (knowledge by analogy) and *śabda* (knowledge by verbal testimony). He is taken to define *pramāṇa* first and then to defines the four individual *pramāṇa-s* in the order in which they have been listed in the *sūtra* 1.1.3: which states the division of *pramāṇa* listed in the *sūtra* 1.1.1. Then he put to test (*parīkṣā*) *pramāṇa* in general and finally he put each of the four *pramāṇa-s* to test one after another in the order in which they have been listed.

It thus emerges that according to the Indian conception of theory, theory of a thing or subject matter consists of utterance successively in terms of listing it, defining it and examining it. Where a comprehensive theory has more than one thing as its subject matter, not only all of these listed subjects are to be submitted to all these treatments of definition etc. but also fixed order is to be observed in the performance of these theoretical exercises (in definition etc.) which come under the unity of a theoretical enterprise. Thus the statements of a theory should begin with those which tell us exhaustively and in a particular order all the things a whole theory is about. Respective single subject matter of each contained theory thus gets

mentioned in a general way. Then comes the sentences which state, whenever possible, the division, in every relevant way, of each listed item. Here also order or listing is to be followed. These statements of division are followed by statements of definition. Each listed item in that order is defined before it is divided and then each division of it is defined also. And then finally there come sentences which record the result of putting into test all these definitions and other relevant matters. In many cases, almost in all cases in Indian theoretical heritage, definitions along with other beliefs and sentences are empirical or factual. So they are taken as subject to both logical and empirical, including observational tests. So far therefore the theory is an empirical theory but none the less it is a theory in some well defined sense displaying both structural unity and methodological rigor.

Now we can answer when a *sastra* is complete, without bringing into consideration some non-theoretical conceptions. A *sastra* is complete when all the listed items have been dealt with in the sense described. A complete treatment of any one of the listed topics displaying intra-systemic and inter-systemic connected-ness is a complete but supplementing theory within the unity of a network of theories or a *sastra*. This completeness gives every theory however small or large a definite unity and connected-ness. But at the same time there is no theoretical argument to show man's inquiry will ever stop. Every advance in knowledge is a new take off ground and also the point at which new queries arise. In the history of development of human knowledge not only many questions have by now been answered but there are also many questions which 'e are now discussing and which could not have been even formulated in the past.

We have so far spoken of three major ingredients of the Indian conception of a theory. (1) Whatever be its subject matter a theory is a finite body of truths, beliefs or statements. (2) There must be specific sort of inter-connecte-dness between any two statements or any two groups of statements. It does not matter whether such group counts as, in terms of a written book, a sub-section, section or chapter. (3) The third ingredient is a well defined and explicitly stated method. This method gives the theory its rigor and also determines the structure it has. The method as formulated by Vātsyāyana, and as generally followed by Indian theoreticians before and after him, lends, if it is strictly followed, a definite look to a theory. This method was nearly as closely followed by Gautama as could be possible. And we find a clear structure in his Nyāyasūtra. A theory so far is laid out as list or announcement, definition, division (order between last two may be occasionally reversed) and test. The method also brings rigor in the analytic treatment which is meted out to everything the theory is about. Nyāya became almost another name for rigorous and analytic method of treatment or method of any rigorous theory. Indeed the method of treatment explicitly articulated by Vātsyāyana has almost a mathematical precision about it. It almost meets the standard of (Descartes statement of) mathematical method and the modern conception of rigor. We shall discuss in the next major division of the paper fourth ingredient of the conception of theory, viz. synthesis or generalization. Our term for it is *anugama*.

Before I pass on to the treatment of *anugama* and illustrate all that have gone before with reference to the development of Nyāya theory of inference, I may as well say a little more about the Nyāya conception of inter-connected-ness. This is one point which is likely to have left almost everyone dissatisfied. For the interconnectedness has been defined in too subjectivists and psychological term. For *ākāṅkṣā* of different persons are likely to be different and not fully predictable. At any given point of the development of a theory individual differences in respect of the form and content of their questions or queries may be seen as the demand for connecting the relevant items in as many different ways. Secondly, connecting by way of *sākāṅkṣatva* cannot achieve as much by way of logicality of a theory as can be achieved when the statements constituting a theory are connected, say, deductively. For, deductively connected statements are, for that reason, statements having logical justification. Whatever psychological satisfaction the connection in terms of *sākāṅkṣatva* may produce, it cannot count as logical support. Many things may have to be said to clarify the issues involved before we can really allay the dissatisfaction. What I shall do instead is to state very briefly a way in which I would like to answer the objection. The logic we use is *not* deductive. We do not think of a theory as deductively connected body of sentences either. This is true. Again logical-psychological distinction is not as sharply drawn here as it is done elsewhere. The phenomenon called anti-psychologism is also conspicuous by its absence in India. All these are true. But despite all that the notion of interconnectedness is not that loose or psychological either. What really does the connecting is not deductive logical relation but *causal* relation. It 's not so clear in the way Gadādhara has formulated or analyzed *sākāṅkṣatva*. But the two terms he used in his formulation *utthāpakatva* and *nivartakatva* point towards this underlaying causal link that should be there between, not the statements of the theory but, the beliefs they express.

IX : ANTARBHĀVA AND ANUGAMA CONSTITUTIVE FEATURES OF THEORY CONSTRUCTION AND DEVELOPMENT

It is impossible to read any advance text of Nyāya and not to meet frequently with the expression *anugama*. *Anugama* is another ingredient of the conception of theory. Or perhaps there are two ingredients and both of them this expression signifies. For the present I take *anugama* to signify generalization. Need for this as an essential part of our theoretical enterprise arises from the fact that our conception of systematic knowledge or theory is closely related with generalization. To put it otherwise, unity and generality are as great theoretical virtues as precision and rigor. Speculative rationality manifests itself in the demand and search for generalization and/or unification. This demand brought science into being; and once it is there, it keeps science growing. Movement from sense to science from the discrete pieces of information provided by the senses of an infant at birth to the unified body of knowledge an adult of our age has; from the chaotic plurality of things to (the picture of) a unitary world - begins with and is sustained by generalization. Even so there would not have arisen the problem of unification but for the fact that

as Hawking writes, "it would be very difficult to construct a complete unified theory of everything in the universe all at one go. So instead we have made progress by finding partial theories that describe a limited range of happenings and by neglecting other effects .... Ultimately however, one would hope to find a complete, consistent, unified theory that would include all these partial theories....".[19]

Generalization is of great theoretical value and various means are adopted to achieve this goal (progressively). Some of these are abstraction, reduction and unification. Generalization works at many levels within the two extremes of (1) *empty generality* - which obliterates all important distinctions even, and, (2) *excessive particularity* - where we are left with unrelated, independent particulars alone. There is the recorded story of a child who would call everything black, even a man who used to wear black coat, a crow. And there is the new born infant who takes his mother to be so unique a being - his mother - that she is hardly even mother, let alone a human being. But the fact remains that with the first act of abstraction or concept formation there begins generalization also. Introducing a predicate corresponding to some sortal property, in language, establishing general truths, framing hypothesis, arriving at laws and bringing them within one theory, all these contribute to systematizing and generalizing our knowledge of a group of phenomena.

We can generalize, in some sense both by way of reduction and unification. Reduction is also a way of unifying. The group which launched the famous program of 'Encyclopedia of Unified Sciences' (roughly speaking) meant to reduce language of all sciences to one language, namely, that of physics, Logicists' program of reducing mathematics to logic or, more accurately, to logic and set theory, is another case of unification. Our term for reduction is *antarbhāva*. Thus whereas the Naiyāyika-s have two theories - theory of inference *(anumāna)* and theory of knowledge by testimony *(śabda)* which they treat as related but separate, the Vaiśeṣika-s reduce *śabda* to *anumiti*. The Vaiśeṣika-s thereby demonstrate the *gatārthatā* (or inclusion or more literally, the purpose having been served) of theory of *śabda* once the theory of *anumana* has been constructed. Two points about *antarbhāva* or reduction distinguishes it from *anugama* or unification. In the first place if reduction advances our knowledge, it does so by way of, say, making our understanding more intensive. But in *anugama* our understanding becomes more extensive, though never at the cost of detailed or intensive understanding. Secondly the theory which gets reduced does not really have any theoretically important difference from the theory into which it is reduced. The former says nothing more of importance than the latter; it rather says in a more confused and misleading way the same or nearly the same thing which the other theory says more clearly and logically. If further, reduction means more than theoretical reduction or definitional reduction, if it means, say, ontological reduction then there is perhaps the implication that the theory or thing which is reduced is thereby shown to be unreal or less real.

Just as there is, mainly in philosophy, an activity called reduction, there is also another sort of theoretical activity called unification. We often hear about the

unification of physics. We are told that Einstein spent most of his later years unsuccessfully searching for a unified theory, though he has unified much of the results of sciences before him.[20] Anyway unification is an important part of theoretical enterprise. Systematization is here carried on at the level of theories. When two theories are unified by building a third unified and more comprehensive theory, the theories unified are seen to be still two partial but complete and independent or parallel theories within the unified theory. This is, one might say, over simplification. For actually both the original theories are reduced into a third theory. True, but we wanted to emphasis the fact that in case of unification none of the theories unified is reduced to the other. In case of reduction, or as we understand it here *antarbhāva*, that is exactly what is done. Our term for unification as distinct from reduction is *anugama*. If *anugama* or unification or generalization is to be possible and is to advance our knowledge really then it must be based on our ability to look beyond (or deeper into) the apparent difference of the two theories or the two phenomena the two theories are about and discover important and relevant point of connection between them. It is the discovery of inter-systemic unity. Generalization in this sense yields or is based on new and deeper insight into the structure of the phenomena concerned. We gain insight into the real and important connection between what remained till late disconnected and unsynthesized. Generalization unlike reduction, discovers within their known difference, some genuine and objective connection between the items (synthesized), a connection which is at the same time important and relevant. We shall speak more about *anugama* in course of illustrating it with reference to the development of the Nyāya theory of inference, though as a part of theory building exercise example of *anugama* may be found in Nyāya theory of morals or being as well.

X : PROBLEM OF SUBSTANTIVE UNIFICATION AND ADEQUATE TAXONOMY IN INFERENCE THEORY

We begin by taking each inference separately. Eventually we shall acquire insight into their deeper and abiding character. This enables us to talk generally about them and to take them as belonging to the same class of things. This is the class of *anumiti* or inference. As yet it is more a matter of intuitive grasp of the thing *anumiti* or its nature. We still lack any theoretical criterion of inference or *anumiti*. Ultimately we discover that the generalization we achieve by collecting together a number of phenomena under one group is not a matter of arbitrary decision to apply a certain word to each of the items in question. When a Vaiśeṣika differs from a Naiyāyika on the issue of whether a certain form of knowledge is knowledge by inference or knowledge by verbal testimony, he does not only differ about the use of a certain expression, namely, *anumiti* or *śabda*. The difference is more substantial than verbal.

We do not really succeed in generalizing if we can do no more than coin a new compact expression, a word say, or if we create a convention regarding the use of

certain single expression to a number of different things. If generalization is to serve any theoretical purpose then it should consist in discovering or detecting some substantial agreement between or some common objective property - may be structural or may be essential-in all the individual things in question. Thus scientifically important unity or generality should not be interpreted as 'being referred to by the same single general word', say, '*anumiti*'. For us at least, this term is inherited from our predecessors. Unless we were already in a high level of theoretical sophistication, the term was inherited without any clear criterion of application. The lay man has available to him the word, say '*anumiti*', but not any clear, precise and rigorous criterion of application. To the uninitiated the term may not appear to be associated with the objective universal of *anumititva*. Much should not be read into the fact that he still talks of each instance of inference-ness, *anumititva*, as inference *anumiti*. For there is no guarantee that even though he has used the term *anumiti* in case of past ninety nine inferences, taken each individually, he may not hesitate or even refusé to apply the term in case of the hundredth one. Or there might have been an unclarified sense of vague similarity rather than any clear presence of objective universal which has been all these days guiding the lay man in his use of the term *anumiti* or inference. But the very fact that we find that the lay man has taken certain acts of knowledge separately and treats them all in a way in which he does treat any one of the many other variety of knowledge shows that we at least have outgrown the pre-theoretical ignorance or innocence. In our theoretical sophistication or maturity we might have discovered a means of unifying all individual cases of inference. At least the Naiyāyika-s have discovered one. Though they too began as a lay man and by counting each instance of inference-ness separately their theoretical disposition enabled them to note early that all these inferences have similar causal history. These are all dependent on perceptual cognition of some sort.

Gautama noted that it is causal dependence of inference on perception that did the act of unifying or what had been the bond of unification. While such dependence characterizes every act of inference, it does not characterize all acts of perception (or all instances of any other variety of cognition in the same sense). He could thus define inference as knowledge which depends on perception. This definition marks the attainment of *optimal generality*. For, definition enabled us to collect together not everything but everything that has the character in question. In the next stage we find all that it means. It means that everything of a certain kind depended on something of another kind. Now we have an objective property and a class defined in terms of it. Each individual act of inference is a member of this class or group. We achieve generality and deeper insight. A very subtle point has been made which took long to be clarified not only in the Greco-European tradition but in Indian tradition also. The defining property which characterizes all and only the members of a certain group is not itself the property which defined that group. Here the causal dependence on perception - *pratyakṣa purvakatva* - is the property which acts as defining property which characterizes every member of a group. But the property that defines the group itself, the associated class defining property, is *anumititva*.

(The two properties are not respectively *differentium und genus*). We shall not discuss here this more subtle point.

The first point to note about Gautama's theory of inference is that he has been able to organize our knowledge about inference. He has succeeded in forming the concept of *anumiti.* This marks at the same time optimum and substantive generality. We would have more than optimum generality if we defined inference simply as knowledge or as something. We would not have substantive generality is we defined inference as what is referred to by means of the word 'inference'. But apart from taking the phenomenon of inference in its optimum generality Gautama has noted some *important* difference between the members of the broad class of inference. In the same aphorism where he defined inference Gautama has given us a threefold classification of inferences. This further confirms that theoretical insight does not consist in discovering only optimal generality or certain principle of optimal generalization. It is equally a matter of theoretical insight to be able to discover important differences within a generality. Generality does no longer remain vague and blanket generality.

We have been trying to illustrate that scientific substantive unification or generalization is or is comparable with definition, which according to Vātsyāyana is an essential part of philosophical activity. Theoretically it is possible to have or give the definition where there is just one correct application of an expression or there is numerically only one thing to which the expression in question applies correctly. The question of *anugama* we have in mind, does not arise here. But where the domain of application of an expression or the things which constitute the *definienda* may be internally distinguished or classified there arises a problem of matching at every point of the growth of knowledge the generality achieved with taxonomy discovered. Let us illustrate.

XI : ANUGATA DEFINITION OF INFERENCE AND THEORY CHANGE

Gaṅgeśa began his own theory of perception by first noting that Gautama's theory of perception could be improved and further developed. One of the areas of development was the definition of perception. Again Gaṅgeśa's theory of inference is similarly a continuation of an improvement upon Gautama's theory of inference. Gautama had already achieved great systematization by detecting that each of the indefinite instances of inference has the property of causal dependence on perceptual cognition. No longer each act of inference looked different from every other act of inference or again from every other cognition. All inferences have this substantial unity that they have similar causal history. To discover this point is to gain both in insight and in unification. We not only succeed in explaining causally what an act of inference is and bring together all instances of inference so far, but we also bring together all future instances of cognition which may rightly be called inference. We can say wherever there occurs the sort of cognition which causally determines

occurrence of inferential cognition, the cognition that occurs (if there is no preventing condition) is an inference. But though Gautama had noted clearly that (every) inference is preceded by perception yet it is possible for different persons to take inference to be preceded by different sorts of perception. For according to the causal account of inference, an inference is preceded regularly by two different perceptions. The first of these perceptions is the perception of the presence of the ground of inference in what figures as subject of inference. This is called in short perception of *hetu* or *hetudarśana*. The second of the two perceptions is called *parāmarśa*. It is perception in the same subject of the qualified ground of inference. What qualifies the ground is its relation of *vyāpti* with the other term, the an inference in question, namely, what is being inferred or the *sādhya*.

Definition of inference as cognition preceded by perceptual cognition is in the first place vague. For, which perception is being referred to is unclear. But this did not so much bother Gautama because he divided inference into three types and any inference which belonged to any one of these types is preceded by perception of both the types distinguished above. In other words each inference of each type agrees with all inferences of all the other types in this respect that it is causally determined by both perception of *hetu* and perception called *parāmarśa*. Thus though Gautama's definition, as it stands, is vague and too wide, yet this may be allowed; for, first, in aphoristic writing of the type of Gautama there is no scope for such explicitness or precision which conflicts with the requirement of brevity.[21] Secondly, once it is understood that only perceptual cognitions which play causal role in the genesis of inference are *hetudarśana* and *parāmarśa*, further specification as to which of these two perceptions is to be understood to have been referred to by the relevant expression ('*tat*') of Gautama's definition of inference, is uncalled for. For each defines a class of exactly the same extension. This does not mean whichever cognition is causally preceded by *hetudarśana* is also preceded by *parāmarśa*. It is rather that each of these perceptions may be found to causally precede inference of all the three types which have been distinguished by Gautama.

The point to note first is that Gautama not only defined inference but also divided it. He divided it into three (major) types: (1) inference of effect from cause, (2) inference of cause from effect, and (3) inference which are *sāmānyatodṛṣṭa*. In one and the same aphorism Gautama performed both the jobs of defining (in a general way) and dividing inference.[22] Even if one does not perform both the jobs in one single sentence or utterance one must do them together in the sense that one is to be done with the other thing in eye. One is not a good theoretician if one does not think of defining and classifying together. But this does not mean that one should give definition of each of the division into which taxonomy divides the subject matter in question. Suppose a subject matter *s* is divided into *d1* and *d2*. One is to define both *s* and again *d1* and *d2*. In defining the subject matter before division, that is, in defining *s* one is defining both *d1* and *d2* jointly and in a way which suits each of them equally. Thus one must give *anugata* or uniform and general definition which while keeps all the divisions in view, generalizes them. Providing generalized and

uniform definition, covering every division to which the *definiendum* is divided, is not to be viewed simply as bringing together the act of providing particular definitions of each of the division and the classification of the subject matter. The more important thing is that unless one has a generalized or a uniform definition of the subject matter, systematic classification or division itself will be impossible. (Of course, as said before, where the subject matter admits of division only, there all that is being said now will be true). Where there is a systematically worked out scheme of classification, there the definition is saved from empty or near empty generality. On the other hand less it is backed by a good definition or criterion, the name of the subject matter, its being listed merely does not serve any scientific purpose. It is little more than arbitrary nomenclature signifying empty generality.

So the methodology for theoretical disciplines which the Naiyāyika-s have given and which they themselves follow in their work, includes (1) naming or listing by name; (2) defining (generally or uniformly), (3) dividing or classifying, and then; (4) defining again (in a particularized way), that is, defining each division of the subject matter. If (2) were omitted then there would not be the necessary and over arching unity within which alone a taxonomy becomes a scientific taxonomy. If the subject matter being divided does not have a unity, is not in some sense, one and the same thing, then the divisions are not the divisions of the same thing. Then there is hardly any scientific division. Thus every good taxonomy must work within a unity and this can be understood in terms of a definition which collects all the divisions into which the scientific ta nomy divides it. Such a generic definition - *sāmānya lakṣaṇa* - applies to each of these divisions and works as a criterion of application of the relevant expression to all the divisions. The general name itself could also be made to collect all the divisions; which could also collect all that is collected by the generic definition within the concept of 'being called or referred to by the same general name' but we would not know that it was not arbitrary. But if the general name is associated with or is backed by an objective criterion then not only the application of the term to diverse instances are not arbitrary but also all these different instances have some objective bond of unity. To be able to discover it is a genuine case of scientific systematization and generalization. Thus (3) assumes genuine scientific character and advances our knowledge if performed within or combined with (2). But theoretically it is as important to discover objective unity as it is to discover important differences or divisions in every possible, theoretically relevant, way. We may not, and cannot, have all these division in one go. From time to time as our knowledge advances, we introduce and discover newer ways of dividing our subject matter in a theoretically relevant way. These ways mark the respective stages from the point of view of the stage of development of the theory). And we are to rework our generic definition if it does not apply equally naturally to each of the newly discovered division. For, otherwise the next taxonomy will be arbitrary in the sense that there is no knowing whether we are dividing the same thing. On the other hand if the taxonomy is deemed to be all right then if the generic definition is not there or is not defensible then the generic name accounts for no more than empty or arbitrary generality. Part of the acceptability of new taxonomy as scientific and precise is

demonstrated when each new division or newly discovered sub-section is provided with its own definition. This is the fourth of the job of a theoretician as enumerated above.

The second point to note about Gautama's generic definition of inference and division of it, given in the aphorism 1.1.5, is that the important factor is the genesis of inferential cognition which enters into *parāmarśa* and distinguishes this perception of the ground of inference from the other perception, namely, (second) *hetudarśana*, has not been highlighted. In almost no case of actual and concrete inference is involved a *perception* of this factor called *vyāpti*. Though perception in terms of which Gautama defined inference be interpreted to mean perception of *hetu* (or *hetudarśana*) and *parāmarśa*, which is distinct from *hetudarśana*, in that it is perception of *hetu* as qualified by *vyāpti*. This virtual omission of the reference to *vyāpti* in his definition of inference (in terms of perception) amounts to underplaying the all important role it plays in act of inference. Or to put it otherwise, since *perception* of *vyāpti* plays no essential role in the genesis of inference Gautama may rightly omit reference to it since he aimed at giving definition of inference in terms of causal condition. He might have opted in favor of a *causal* definition because he found in it a prospect of connecting together his theory of perception already developed and his theory of inference which was being developed. Thus both demand of *ekavākyatā* and desirability of turning his theory explanatory, within the causal model of explanation, could be met at once, it inference was defined in terms of perception. But since perception of *vyāpti* is not directly a cause of almost any inference whatsoever, reference to *vyāpti*, it may be thought, got omitted from Gautama's definition or account of inference.

In fact Gautama had little to say explicitly about *vyāpti* in his theory of inference. But definition of inference could not have been meant to be given by Gautama in terms of perception as such. For any and every perception does not cause inference. So Vātsyāyana interpreted the pronoun '*tat*' occurring in Gautama's definition of inference and referring back to the noun *pratyakṣa* or perception discussed earlier by Gautama himself to mean both the perceptions : *hetudarśana* and *parāmarśa*. Again, perhaps in a bid to save Gautama from the charge of underplaying the role of *vyāpti* rather than the perception of it plays directly the role of a cause. It is not clear whether Gautama or Vātsyāyana entertained any fully formulated theory of *parāmarśa*.

Though Gautama's definition of inference matched the way he himself explicitly divided inference, yet there are other ways of dividing inference to show that Gautama's definition does no longer match. One such way is to divide inference into *svārtha* and *parārtha*. Though Praśastapada for the first time introduced this division explicitly[25] yet there are good reasons to hold that Gautama was fully aware of the contexts where inference or *anumāna* is of the variety *parārthānumāna*.[26] Roughly speaking *parārthānumāna* is an inference which one is said to have or do under the influence of a form of speech called argument (*nyāya*) being employed

by others. The idea is this, if one offers an argument (*nyāya*) in support of or in refutation of a position then on hearing such argument we come to entertain certain belief which causes in its turn inference or inferential judgement. Such inferences are *parāthānumāna*. Inference other than *parāthānumāna* is *svārthānumāna*; we have such inference without inducement by others in the form of their offering some argument. When Gaṅgeśa began to write his Tattvacintāmaṇi, there were already extant among many other ways of dividing inference, the division of inference into *svārtha* and *parārtha* usually traced to Praśastapada and another division which is said to be due to Udāyanācārya. This second division is according to the principle whether the belief which finally results from an inferential process has for its content the ground of inference also. An example may help. The result of the process of inferring presence of fire in a hill on the evidence of perceived presence of the ground, i.e., the smoke there, is called inference of fire from smoke. The belief that result from such inference is held normally to be of the form "(Therefore) the hill has fire". According to Udāyana, it is said, this belief is, at least sometimes, of the form "(Therefore) the hill which has smoke has fire". So one finds inference is divided into two, where the ground of inference forms a part of inferential belief and where the ground does not form any part of inferential beliefs.

In the tradition of Navya Nyāya founded by Gaṅgeśa it was noted that an adequate but generic and causal definition of inference - that is, of inference as such - could not be given in terms of *parāmarśa* if we admit a variety of inference where the resulting inferential belief contains the ground of inference as a part of.. I shall not discuss this point here but assume it to have been understood and accepted. Gaṅgeśa must have also found that a generic and causal definition of inference could not be given in terms of *vyāptijñāna*, for, that will not cover the cases of *parārthānumāna*. This is not to deny that *vyāptijñāna* or *parāmarśa* plays a vital role in the genesis of inference. But a causal definition of inference as such may or may not be possible depending on the principle of division of inference we use or the way we divide inference. As time progresses, our knowledge in the area covered by a theory advances, we note or discover new important features and relations affecting the things in question. New taxonomies are brought in. We find earlier definitions can no longer be seen to be an adequately generalized notions which could cover all the newly discovered divisions. New definitions are framed. The process continues. But there may come a moment when we find that the old definition matches the new taxonomy perfectly but for one or two items of the taxonomy. We may prefer to retain the old general definition as generally true or holding and provide separate explanation of the remaining exceptional items. Some items again we make the old definition fully general and fool proof by incorporating within the body of it a clause which excludes the exceptional cases from its purview. Many examples are there. I give just one to illustrate the point where the difference of the defined classes from the exceptional one is made a part of the definition itself.

There are any number of things in the world. One exercise in exhaustive taxonomy divides things into those that are real, *sat*, and those that are fictitious,

alīka. Then those that are real are divided into those that are eternal, *nitya*, and those that are non-eternal, *anitya*. It was found that this division of real things perfectly matches with anothe: division of the same set of things - division into *nitya* (and *alīka*) on the one hand and *kādācitka* on the other, but for one non-eternal, *anitya*, thing. This single non *nitya* thing is *prāgabhāva* or the absence of a thing which is there till the time the thing is actually produced. A situation is created where real things are to be divided into *nitya*, *anitya* and *kādācitka* (not only not *anitya* but also caused). The only thing which is the member of the class of *anitya* but not *kādācitka* is *prāgabhāva*. Instead of radically changing the old definition of *kādācitka* to exclude *prāgabhāva*, we simply include as part of the defining property of *kādācitkatva* its difference from *prāgabhāva* or simply *prāgabhāvabhinnatva*. We define *kādācitka* as *prāgabhāvabhinnatve sati kiñcit kālāsaṃbandhitve ca sati kiñcit kāla saṃbandhitvaṃ*.

To come back to the development of Nyāya theory of inference, Gaṅgeśa noted, with due importance, that a causal definition of inference in terms of knowledge (memory) of *vyāpti* might be general enough to cover all inferences so far as they are divided in the way Gautama had actually and explicitly divided them. But he must have noted with equal or more concern the fact that such a definition would not only violate the requirement of *ekavākyatā* in Gautama's text; and would also fail to match the taxonomy which was introduced subsequently by Praśastapada in clear terms, of which Gautama himself was fully aware. This explains why Gaṅgeśa who is credited till date with the most developed theory of *vyāpti*, pı . :erred to define inference in terms of the perception called *parāmarśa*. Nobody was more alive to the important causal role which knowledge of *vyāpti* plays in the genesis of inference. Thus in action he endorses Gautama's way of causally defining inference in terms of perceptual knowledge including *parāmarśa*. Here is the sharpness of Gautama's insight. His definition gave us such a generalized notion of inference that not only it matched all inferences when they are divided in the way in which he himself explicitly divided them did but also when they are divided in the most important other way in which Praśastapada divided them explicitly.

XII : PROGRESSION OF VYĀPTI ANUGAMA IN THE UNIFIED THEORY OF INFERENCE

In another sense, however, and taken independently, Gautama's scheme of classification of inference appears to need improvement. The classification seems to be based on the inference generating *relation* of the ground (*hetu*) of an inference to *sādhya* or the thing to be inferred by means of that inference. But this relation was not sufficiently generalized. He distinguished inferences which depend on cause effect relation between the *hetu* and *sādhya* from those which depend on some non-causal relation obtaining between their respective *hetu* and *sādhya*. Whatever importance such division may have from the point of view of ontology or psychology it does not have much value from strictly logical point of view. Once we

generalized the inference generating relation of *hetu* to *sādhya*, we begin to find that all three relations Gautama distinguished are so many instances of the single generalized relation of *vyāpti*. Though Gaṅgeśa did not introduce or invent the notion of *vyāpti* yet he is the author of the most systematic theory of *vyāpti* till date. His elaborate discussion on *vyāpti* includes exhaustive treatment of almost all the available conceptions of *vyāpti* which are attributed to the thinkers of the Nyāya, Vaiśeṣika, Mīmāṃsā, Baudha and other schools. These thinkers included both his predecessors and contemporaries. For some of these conceptions of *vyāpti* the origin seems to be Gaṅgeśa hinself. The need for this was there in his own system also. Though Gaṅgeśa offered his generic definition of inference in terms of *parāmarśa*, that is, he generalized the notion of inference as belief caused by *parāmarśa*, yet he soon found that while the notion of *parāmarśa* involves essentially the notion of *vyāpti*, there was no single uniform (*anugata*) account on notion of *vyāpti*. So in spite of its appearance his single account of inference as belief caused by *parāmarśa* is not really single or general. For, *parāmarśa* is a belief to the effect that the subject of inference, *pakṣa*, has such *hetu* as has relation of *vyāpti* to *sādhya*. But *vyāpti* was no single notion. No less than fourteen major different definitions of *vyāpti* were available in philosophical literature at the time; and they were not all compatible. So need for generating and systematizing the notion of *vyāpti* was felt frequently. We need to have a theory of *vyāpti* first which will, among other things, aim at unification, *anugama*, of various notions or definitions of *vyāpti*; and various types of *vyāpti*. This is known as the problem of *vyāptyanugama*.

Gaṅgeśa began constructing his theory of *vyāpti* by noting the attempt made till his time in the direction of generalizing or unifying the notions of *vyāpti* available at the time. Or since historical evidence is perhaps less then minimum, the generalized notion of *vyāpti* with which he began, and which he subsequently replaced by his own better and more unified notion, may be termed as Gaṅgeśa's own first level generalization. The story retold from this non historical angle, is following. Gaṅgeśa found that the introduction of the term *vyāpti* (or, for that matter, *parāmarśa*, involving *vyapti* essentially) will not enable us to generalize non trivially our account or notion of inference if we can not find a precise and general criterion for the application of the term. Gaṅgeśa directed his attention to the solution of this problem. He found that the formulation of *vyāpti* needed for this purpose could perhaps be possible in terms of two basic concepts of 'occurrence' or 'presence' (*vṛttitā* or *adheyatā*) on the one hand and 'absence' (*abhāva*) on the other. There are concepts of relation, such as conjunction etc. and of negatum associated with *abhāva*. The first approximation towards a fully generalized definition of *vyāpti* in terms of *vrttita* and *abhava* is the definition of *vyāpti* as *avyabhicāritatva*. The point of this definition is that certain relation between *hetu* and *sādhya* is both necessary and sufficient for inference to be impossible. This relation is called *vyabhicāra*. Roughly speaking a *hetu* stands to *sādhya* in the relation of no-inference or *vyabhicāra*, whenever the *hetu* is such that it goes without *sādhya*. A *hetu* is said to go without *sādhya* if there is even one instance where the *hetu* exists or *vṛtti* but *sādhya* does not exists, i.e., absence (*abhāva*) of *sādhya* exists. To put it otherwise,

if a *hetu* exists in the locus of absence of *sādhya*, then the *hetu* is *vyabhicāri* in relation to that *sādhya*. A *hetu* is *avyabhicāri* in respect of a *sādhya* if the *hetu* does not exist in the locus of the absence of *sādhya*.

Gaṅgeśa found that this notion of *vyāpti*, in the sense of *avyabhicāritatva*, could generalize the notion of inference generating relation in such a way that all relations which were noted by Kaṇāda and others in the classical Vaiśeṣika tradition as generating inference could be subsumed under this relation of *vyāpti*. The development of the Nyāya theory of inference could be viewed as movement towards progressive generalization and unification (*anugama*) of theories of *vyāpti* and of theory of inference. In the course of this development earlier Nyāya theory and Vaiśeṣika theory of inference were unified and there emerged the unified Navya Nyāya theory of inference. One major stage of this development is generalization of inferential relations into the relation of *vyāpti* as *avyabhicāritatva*. Gaṅgeśa, however, soon detected this definition of *vyāpti* as both circular and inadequate. I shall discuss only the question of adequacy here; for, that alone relates directly to the question of generalization.

The inadequacy of *avyabhicāritatva* notion of *vyāpti* for an adequately unified theory of inference was detected when Gaṅgeś introduced a new taxonomy of inferences and an all time test for any generalized notion of *vyapti* which is defined in terms of *vṛttitva* and *abhāva*, e.g., the notion of *vyāpti* as *avyabhicāritatva*. The test is following. What enters into the structure or form of an infe nce besides the relation of *hetu* to *sādhya*, are the *hetu* and *sādhya* themselves. The most general account of inference should envisage the possibility of everything in the world being *hetu* or *sādhya* of some inference. Now from the point of view of the definition of *vyāpti* as *avyabhicāritatva*, understood in terms of *vṛttita* and *abhāva*, only relevant ways in which things can be different are the following. If some of the things admit of *abhāva* while others do not then they are significantly different. Alternatively, if there is place where absence of some of the things may be found where as there is no place where we can find absence of the other things, then the things are different in relevant ways. Accordingly, all the things of the world are exhaustively distinguished into these groups:

A(a) - Those which have at least one place each where it exists, e.g., books, tables, chairs, etc.;

A(b) - Those which exist everywhere or in everything, e.g., the property of being knowable (*jñeyatva*), and;

B - Those which exist nowhere, i.e., *vṛtti* nowhere, things which cannot be found anywhere, e.g., sky-flower.

Things of the type A(b) are known as *kevalānvayī* and those of the type B are *alīka*. Gaṅgeśa now has a new scheme of classification of inference. All inferences

can be logically divided into two classes: (1) those which have as their *sādhya* something which admits of only positive instances or which exist everywhere, and (2) those the *sādhya* of which is not such. The first type of inference is called inferences having some *kavalānvayī padārtha* as *sādhya* or, for short, *kevalānvayīsādhyaka anumāna*. All other inferences constitute the second type. It is now found that the notion of *vyāpti* as *avyabhicāritatva*, though otherwise wide enough, fails in case of *kevalānvayī sādhyaka* inference. In case of such inferences also there obtains some inferential relation of *vyāpti* of the *hetu* with *sādhya*. But this *vyāpti* does not and cannot satisfy the description - *avyabhicāritatva*. In short, no account of inference in terms of *vyāpti* as *avyabhicāritatva* can be regarded as a unified theory of such wide scope as to be able to accommodate inferences, the *sadhya* of which is *kevalānvayī* as well as those the *sādhya* of which is not *kevalānvayī*. Though the theory of inference in terms of *vyāpti* as *avyabhicāritatva* can unify Gautama's theory of inference and Vaiśeṣika theory of inference, that is, can accommodate inferences of the variety *pūrvavat, sesavat* and *sāmānyatodṛṣṭa* on the one hand and *svārtha* and *parārtha* inference on the other - yet it cannot unify the theory of inference which divides inference into those of which the *sādhya* is *kavalānvayī* and those the *sādhya* of which is not *kevalānvayī*.

The problem of Gaṅgeśa now becomes the problem of further generalizing the notion of *vyapti*. He rightly noted the reason why definition of *vyāpti* as *avyabhicāritatva* failed to cover the type of *vyāpti* which obtains in case of *kevalānvayīsādhyaka anumāna*. The definition of *vyāpti* as *avyabhicāritatva* is a definition in terms of absence of *sādhya*. Such *vyāpti* can be found where *sādhya* is a thing which admits of absence. But where *sādhya* is such, which exists everywhere, there the expression '*absence of sādhya*' will make no sense and *vyapti* in terms of absence of *sādhya* cannot be available. Gaṅgeśa's own definition, known as *siddhāntalakṣaṇa* of *vyāpti*, is not in terms of absence of *sādhya*. He does not define *vyāpti* as *avyabhicāritatva* (or in terms of absence of *sādhya*) precisely because an account of inference in terms of such *vyāpti* will fail to accommodate *kevalānvayī sādhyaka* inference. Gaṅgeśa defines *vyāpti* as *(vyāpaka sādhya) sāmānādhikaraṇya* or roughly, co-existence (or existence in the same locus) of *hetu* with *sādhya*. His account of inference so far is fully generalized and unified. It provides a fully unified (*anugata*) account (*upapatti*) of all inferences as per the latest scheme of classification because it is based on fully generalized and uniform (*anugata*) definition (*lakṣaṇa*) of *vyāpti*.

XIII : OPENENDEDNESS OF GAṄGEŚA'S UNIFIED THEORY OF INFERENCE

It seems that Gaṅgeśa has achieved the objective of a fully generalized theory of inference within the causal model of explanation and the conception of theory made available by Gautama and Vātsyāyana. He quite realized the requirement of a fully unified theory of inference. It is to *match definition* with *taxonomy*. His

definition of inference in terms of *paramarsa* matches the taxonomy which Gautama gave us as well as the Vaiśeṣika, which divides all inferences into *svārtha* and *parārtha*. True, *parāmarśa* has for one of its constituents *vyāpti*, and definition of *vyāpti* as *avyabhicāritatva* would have rendered the definition *ananugata* and a fully unified theory of inference impossible, for, a theory of inference which offers causal account of inference in terms of *parāmarśa* which again is in terms of *vyāpti* as *avyabhicāritatva*, fails to match the division of inference into *kavalānvayīsādhyaka anumāna* and *tadanya*. Gaṅgeśa therefore not only defined inference in terms of *parāmarśa* so that it could unify the Nyāya and Vaiśeṣika theories of inference as they were developed till his time but also he defined *vyāpti* as *(vyāpaka sādhya) sāmānādhikaraṇya* which enables him to unify the theories of *kevalānvayī anumāna* and the theory of other inferences. Thus, by bringing together the considerations of classification, definition and explanation, Gangesa seemed to have achieved the goal of a unified theory.

To be able to produce a sort of unified theory of inference as described above, one would require to have the level of erudition and insight which Gaṅgeśa had. But Gaṅgeśa himself was not fully satisfied. For he missed in his theory *anugama* in another sense of the term. *Anugama* in this sense points at another virtue an acceptable theory must have. It is simplicity or *lāghava* as the Naiyāyika-s say. Quine has said, "Theory brings system; system is simplicity; and simplicity is psychologically imperative".[26] In the section of the *Anumāna* part of his Tattvacintāmaṇi known as Vyāptyanugama the foremost cons' 'eration of Gaṅgeśa is simplicity or logical economy. The notion of *lāghava* itself is not very easy to explain. To have one single unified theory to explain the very same group of phenomena instead of a multitude of theories each of which explains only some of the same single group of phenomena, is to have achieved simplicity. Gaṅgeśa writes in course of his exposition of a unified theory of inference, *ekaiva hi sa vyāptiḥ*, that *vyāpti* is one and single.[27] Thus, unified account of inference is in terms of *parāmarśa* which again involves *vyāpti*. Unless this *vyāpti* is one and single, account of inference in terms of it could not be one unified (*anugata*) account. Gaṅgeśa's conviction that *vyāpti* is one and same is at the same time his conviction in the possibility of one unified theory of inference. It seemed that Gaṅgeśa believed that *vyāpti* understood in the way he defined it, that is, as (*vyāpakasādhya) sāmānādhikaraṇya*, was so general that within the generality of this single *sāmānādhikaraṇya* relation all the various types of inference generating relations of *hetu* with *sādhya* could be subsumed. Accordingly, instead of multitude of theories, each dealing with one group of inference individuated by one single type of inference relation we have now one single unified theory which covers all types of inferences and the credit for all this goes to Gaṅgeśa.

But the progress of knowledge does not stope forever at any point of development. One to two centuries after Gaṅgeśa, Raghunatha Śiromaṇi detected incompatibility between two aspects or assertions of Gaṅgeśa's theory of inference. To be more specific, Raghunatha found that Gaṅgeśa's contention that *vyāpti* is

(vyāpaka sādhya) sāmānādhikaraṇya is incompatible with his other contention that *vyāpti* in one and single (*ekaiva he sa vyāptiḥ*).[28] I shall not discuss this point here. That is, I shall not question whether Gaṅgeśa did really achieve the simplicity of one single definition of *vyāpti* or one single unified theory of *anumāna*. In other words I shall not question whether Gaṅgeśa realized *anugama* or *lāghava* in the sense of a single and fully comprehensive theory. But there is another question which Gaṅgeśa himself raised and answered. He questioned whether the theory of inference he had developed in his Tattvacintāmaṇi (upto the section on *Siddhāntalakṣaṇa*) is *anugata* in the sense of being *laghu* or economical in the logical sense. But here economy is not primarily understood as the criterion to choose between one single comprehensive and unified theory on the one hand and a multitude of partial theories which taken together exhaust the scope of the unified theory. Here it is construed as a criterion to choose between two single theories of equal scope. We choose the simpler one between two such single theories. Here simplicity does not mean easy intelligibility, though that too is a virtue provided logical rigor is not sacrificed. A theory may be a single comprehensive theory and intelligible to greater number of people. It will not still be acceptable if it uses a complicated and unduly rich device - complicated methodology or too may undefined terms or a system of axioms all of which are not independent or whatever it is - to do its job of explaining, interpreting etc. A theory with a smaller axiom set is preferable to another using a larger axiom set - larger even by one axiom. By this standard, i.e, because he uses a larger group of concepts, a more rich conceptual apparatus, Gaṅgeśa theory of *vyāpti* and, for that matter, his theory of inference might be considered non-economic or not single. His theory seems richer because it makes essential use of the notion of *pratiyogyasāmānādhikaraṇatva* (an absence which is such as does not exist with its negatum in the same locus). This notion or concept may be dispensed with and yet a single comprehensive theory may be developed. Gaṅgeśa shows that the concept in question becomes impossible if *vyāpti* is defined in terms of *atyantābhāva*. It can be dispensed with if we defined *vyāpti* in terms of mutual absence or *anyonyabhāva*. Whether this is really so has been elaborately discussed by Raghunatha.[29]

XIV : TEMPORALITY UNIFICATION AND DEVELOPMENT OF THEORY

Instances can be multiplied to show that Indian thinkers developed and followed a well worked out conception of theory. A theory was conceived to have a logical structure and some theoretical goals to achieve. The ingredients of Indian conception of a theory are: rigorous and analytical method of treatment; (a theory of) evidence or justification; unity or generality, and; simplicity. These are considered theoretical virtues and were sought for jealously. I have presented above a brief account of the representative Indian view about theory structure and *vyāptyanugama*. Now I shall return more briefly to the question of temporality again. But one aspect of the process of scientific generalization or unification which we have

been emphasizing, should be remembered. Scientific unification is unification of partial theories. Even at the level of partial theories great amount of systematization must have been effected. A unified theory is a higher order theoretical enterprise which must take into consideration all that has already been achieved by earlier attempts at theorizing. The history of such attempts may be traced back to a point beyond which we had only pre-theoretic, intuitive understanding of the relevant phenomena. Secondly, the nature and need for scientific generalization is to be distinguished from those of another sort of generalization, which consists in blindness to relevant and important details and divisions. One who cannot tell the difference between an oak tree and a pine tree and refers to both simply by the word 'tree' should not be taken to have reached a scientific generalization, i.e., generalization which consists in the discovery of some important common feature of these two kinds of tree, a feature which, there is reason to believe, overrides the known objective differences between the two. Thus demand for unification is renewed each time a new taxonomy is introduced.

Specialized research within a theory creates a necessity for a more generalized or unified conception of the theory. If a specialized branch discovered or created within a theory could not be unified with other parts of the theory, if necessary, by generalizing the theory itself, then soon the specialized branch would become an independent theory. There had been a time when even physics was included within philosophy. But specialized researches in the area of physics took such a developed for that no way was found to redefine philosophy in a way which would be both significant and wide enough to include physics as a branch of it. Hence physics became an independent discipline of study. In short scientific unification is the unification of theories distinguished within a scientific taxonomy. Any distinction relative to, say, the idiosyncrasy of an individual is not a matter to be reckoned with by a theoretician who means business. Similarly any generalization such as one which is effected through accidental oversight of important difference is not what we mean by (scientific) unification or generalization. Distinctions to be reckoned with are those which are brought about by a systematic exercise in scientific taxonomy. Generalization means optimum generalization which honors and does not blurs the objective and important difference among phenomena brought to notice by exercises in taxonomy or other specialized research. Introducing a new scheme of classification of the data or phenomena, on which theorizing is being considered, need not mean discovery of a new aspect of the phenomena in question. For then the earlier taxonomies can not be significantly compared with the new one. For then the earlier taxonomy did not mean to introduce distinction between the same set of phenomena or the same distinctions as the new taxonomy. The correctness of this interpretation or construal of the point of introducing successive taxonomies may be proved if successive taxonomies never yielded a situation of cross division when applied jointly. But such a situation does occur when successive taxonomies in the Nyāya theory of inference which we have so long been talking about are applied in practice jointly. Thus, to divide inference into *svārtha* and *parārtha* and then to divide inferences into *kavalānvayīsādhyaka* and *tadanya* would be an instance of cross

division. The distinction we have been insisting on so far between a generalized theory and a partial theory, between general rules or statements or definitions on the one hand and special or specific rules etc., have nothing to do with temporality which enters into or figures prominently in the history of theoretical enterprise when there is scope for new discoveries or the subject matter shows up new characteristics in course of time. The process of theory building or, if you like, formulating universal law or rule "is a durationally drawn out process in time", but still it does not have perhaps the "diachronic features" quite in the sense in which Navjyoti Singh perhaps understands it.[30] For, it is a matter of historical accident that all the different taxonomies are not discovered all at once. The features which the successively introduced taxonomies discover or highlight are all the time there. Thus succession of schemes of classifications and matching formulations and reformulation of rules, laws etc. does not show that a theory is temporally open in any theoretically important sense.

Again where the subject matter of a theory is formal then whether or not the theory is fully axiomatised, it is hardly temporally open in any sense of the term. But where the subject matter is something which is temporal not simply in the sense of being in time but in a more important sense of being developing, evolving, dynamic, there the theory or the body of truths in question is temporally vulnerable. Such theories have to my mind the feature Navjyoti Singh spoke about in the important sense. Temporal openness of such theories may be carried to the extreme, where any attempt at systematizing the phenomena being studied - even the attempt to subject them to the rules of logic - may be looked at with suspicion. I have dealt with the challenge such extreme position poses against realist conception of theory or realist norm of understanding elsewhere. Here it may suffice, if we remember that a growing living subject matter cannot fully be captured within the connotation of the term we use to list it at the time of beginning to build a theory. For, in course of time the sense of the word changes and the unity of the subject matter of the theory changes also. Whatever general law we may discover at one point of time, the subject may show up new features and may be found to behave in a way not fully predictable on our theory and in terms of the general law already discovered. Sometimes we are inclined to change the law or the general truths, restate or reformulate it. Sometimes again we find that the law holds except perhaps for a small area of the field of study. In this case we do not reformulate the general rule but only add a restrictive clause somewhere in the theory in the spirit of acknowledging the limit of the scope of its application. The area left uncovered may be brought under the negative unity of falling outside that general rule or under the positive unity of some one or more rule which covers the whole range of exceptions of some sort. In Indian theoretical heritage we have the notion of *sāmānya śāstra* or *utsarga* and *viśeṣa śāstra* or *apavāda* which captures the distinction between general rule and restrictions or special rules.

It may therefore be thought that *utsarga - apavāda* structure of a theory is a sure sign of the theory being temporally open in the important sense of its subject -

matter being something growing or dynamic. The sense in which I accept it as true, I shall state presently. But this can also be taken as a case of reading too much into *utsarga* - *apavāda* structure of a theory or general/special rule structure of a theory. For, in a logical theory dealing with atemporal subject matter of propositions we find general and restrictive rules are there. In one sense I think all or almost all Indian theoreticians are committed to temporality of the subject matter of every theory and that too in the important sense. In the Greco-European tradition in general or in the contemporary Anglo-American tradition at any rate, subject matter of a theory is truth or sentence taken as a atemporal and abstract elements to be organized logically. Paradigm of scientific theory is not sociology of knowledge or socio-linguistics which takes seriously knowledge as a developing phenomena. But from Indian point of view theoretical enterprise even at the level of theory building aims at organizing the knowledge or information available up to that time. Knowledge or information again is taken as concrete events or episode in time. This is verified further by popularity of causal model of explanation and causal relation as defining the connection that obtains among the truths (not in the abstract sense) of a theory.

XV : OPTIMUM GENERALITY AND UTSARGA-APAVĀDA STRUCTURE OF THEORY

To conclude, according to Indian conception of a theory, one starts building a theory by *uddeśa*, that is, by verbally introducing, listing and explicitly stating the subject matter which is to be studied. This gives a theory unity and also allows it to have only theoretically possible completeness, namely, completeness of width. What is meant is this - a theory continues to develop, our knowledge in the field covered by the theory continues to grow, forever perhaps. But still theory building can be completed when everything listed as subject matter in the beginning has received the treatment as prescribed in the explicitly stated theoretical methodology which includes definition *(lakṣaṇa)* and test *(parīkṣā)*. The result of this methodic treatment of a subject matter is reasoned truth (*nirṇaya*) in the sense of episodic knowledge. Some of these truths are universal in the sense of having no exception. Some may be universal with a few exception. A general truth about self is that it has quality like consciousness (*jñāna*). This is true generally about all selves including the selves of a slave, a king, a child, a mentally retarded, even God. Thus it may seem that it is universally true that a self has consciousness. But one or two exceptions are there. An ordinary man during the brief period when he is in deep or sound sleep or from the moment he has attained liberation, has no consciousness. Adapting the terms *utsarga* and *apavāda* which originally are class names of rules, (of general rules with or without exceptions and of restrictive rules respectively) we can say that the truth, "self is conscious" is an *utsarga* which holds if and where *apavāda* or truth limiting the scope of the application of *utsarga* is not there. The truth "self does not have consciousness" holds for liberated souls or of souls of men in deep sleep. This truth restricts the application of the otherwise general truth

"self is conscious" to cases other than the cases covered by the restricting truth or *apavāda*. Illustrations may be multiplied from outside *anuśāsana śāstra-s*, like Vyākaraṇa and Mīmāṃsā, which deals with rules in the context of which it is usual to talk about *utsarga* and *apavāda*. "Fire burns" is an *utsarga*. But in the presence of certain things (gem or *mani*) fire does not burn. "Fire does not burn" is true only where those things are there. But the presence of this *apavāda* restricts the scope of the truth "fire burns". The *utsarga* - *apavāda* structure is given to a theory in acknowledgement of the fact that in dealing with pre-given natural, objective real phenomena - with all their variety and changeability - we can hope at most for optimum generality or universality - of truths and laws; and we can hope for optimum unity and generality of a theory. Secondly, theory structure *utsarga* - *apavāda* is a device to avoid contradiction and ensure consistency. If we exclude reference to the range of its application the general truth "self is conscious" may be shown to be as true or false as "Self is not conscious". Instead of taking both the assertions to be false since we have no evidence to decide otherwise, we can save the truth of both by introducing a new taxonomy in terms of the new feature of selves that they sometimes ceased to have consciousness. Now we are either not in trans-phenomenal state (or *mukta*) or are not in a state of waking. We now have some truths of the theory of self applicable to one half of the above division of selves and some other truths holding for the other half. If we ignore this significant difference among selves (or states of self) then substantial truths like "self has consciousness" should have to be dropped altogether along with some other equally substantive and related truth, say, that "self is different from body". Our theory would instead have in that case only such general truths which ignore any distinction between self and body; the general truths will be so thin in content that a theory of them can hardly be taken as a measure of the growth of knowledge.

NOTES

1. Karl Popper, *Unended Quest*, Fontana. 1976. p.160.
2. *cf.* P.K. Mukhopadhyay, "Conceptual Changes : Historicism and Realism", *Journal of Indian Council of Philosophical Research*, Vol.1, No.1. 1983.
3. *cf.* W. Stegmuller, *Collected Papers etc.* Vol. II. D. Reidel Publishing Co. 1977. p.169.
4. Popper, *op.cit.* p. 130.
5. Sir Julian Huxley, "Science and Synthesis" in *Science and Synthesis*, Unesco Publication on the tenth death anniversary of Einstein and Teilhard de Chardin. Springer- Verlag. p.31.
6. Stephen Hawking, *Brief History of Time*, Bantam Books. 1989. p. 163.
7. R.D. Dubrle, "Science and the Unified Vision of the Universe. Einstein's Ideas and Teilhard de Chardin's Contribution", in *Science and Synthesis*, Springer-Verlag. 1967. p.18

8. We owe this modern conception of it to Gottlob Frege and his work *Begriffsschrift* (1879). See also M. Dummett, *Frege: Philosophy of Language*, Duckworth. 1973. p.XVI.

9. *cf.* P.K. Mukhopadhyay, *Indian Realism*, K.P. Bagchi and Co., 1984. p.175.

10. *cf.* D.P. Chattopadhyay, (ed.) *History of Science and Technology in Ancient India*, Firma KLM Pvt. Ltd., Calcutta 1986, p. 14, 20 & 24. I have discussed this point in greater details in my forthcoming paper "Navya Nyāya and Scientific Methodology" which was contributed to the seminar on *Science and Monism* held at Bangalore University in April, 1989.

11. *cf.* Author's paper "Navya Nyāya and Scientific Methodology".

12. Anantalal Thakur (ed.), *Nyāyadarśana*, Mithila Research Institute. 1976. p.23.

13. Even in works of Rhetoric we find confirmation of this. *cf.* Viśvanātha Kavirāja, *Sāhityadarpaṇa*, Chaukhambha Sanskrit Sansthan. 1985. pp. 4-6.

14. See *Jaimini sūtra*. 2.1.46.

15. Raghunatha Śiromaṇi, *Didhiti* in *Anumāna Gadādhari*, Chaukhamba edition. p. 4.

16. *Ibid.* p. 5.

17. Gaṅgeśopādhyāya, *Tattvacintāmaṇi Avayavaprakaraṇam* in *Anumāna Gadādhari*, p. 1460.

18. Vātsyāyana, *Nyāyasūtrabhāṣya*, in *Nyāyadarśana* (ed.) by Anantlal Thakur, p. 181.

19. S. Hawking, *A brief History of Time*, Bantam Books. 1989. p. 163

20. *Ibid.* p.163. See also W. Heisenberg, "The Unified Field Theory" in *Science and Synthesis*.

21. *cf.* *Madhvabhāṣya* on *Brahmasūtra*. 1.11.

22. *cf.* *Nyāyasūtra*. 1.1.5.

23. "*Lingalinginoḥ sambandhadarśanaṃ*" in *Vātsyāyanabhāṣya* on *Sūtra* 1.1.5.

24. *cf.* Durgadhara Jha (ed.), *Praśastapadabhāṣya* with *Nyāyakaṇḍali*, Varanasi. p. 558f.

25. In her unpublished Ph.D. dissertation (Jadavpur University) Shrimati Ratna Dutta Sharma has elaborately discussed this point. *cf.* Her *Nyāya and Parārthānumāna*, Central Library.

26. W.V.Quine, "Limits of Knowledge" in *Paradoxes and Other Essay*. p. 64.

27. *cf.* *Anumānagadādhari*. p. 1250.

28. Raghunath Śiromaṇi, *Siddhāntalakṣaṇa Didhiti*, Sivadatta's edition, Chaukhamba. p. 53.

29. Raghunatha Śiromaṇi, *Vyāptyanugamanadidhiti* in *Anumānagadādhari*.

30. Navjyoti Singh, "Temporality and Veridical Content of Logical Structure" in this volume. p.24.